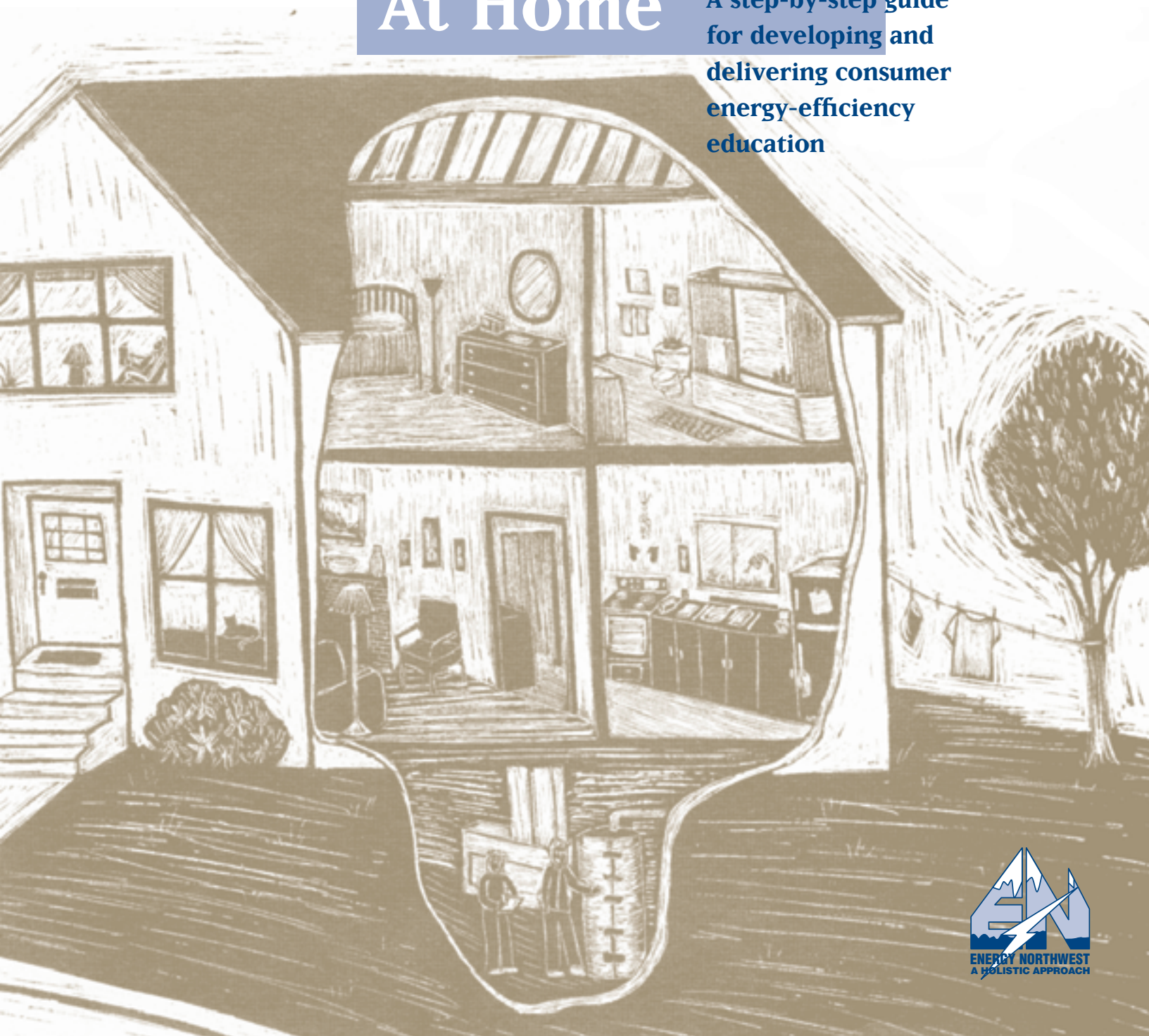
WASHINGTON STATE COMMUNITY,
TRADE AND ECONOMIC DEVELOPMENT

Tomorrow's Energy Begins At Home

A step-by-step guide for developing and delivering consumer energy-efficiency education



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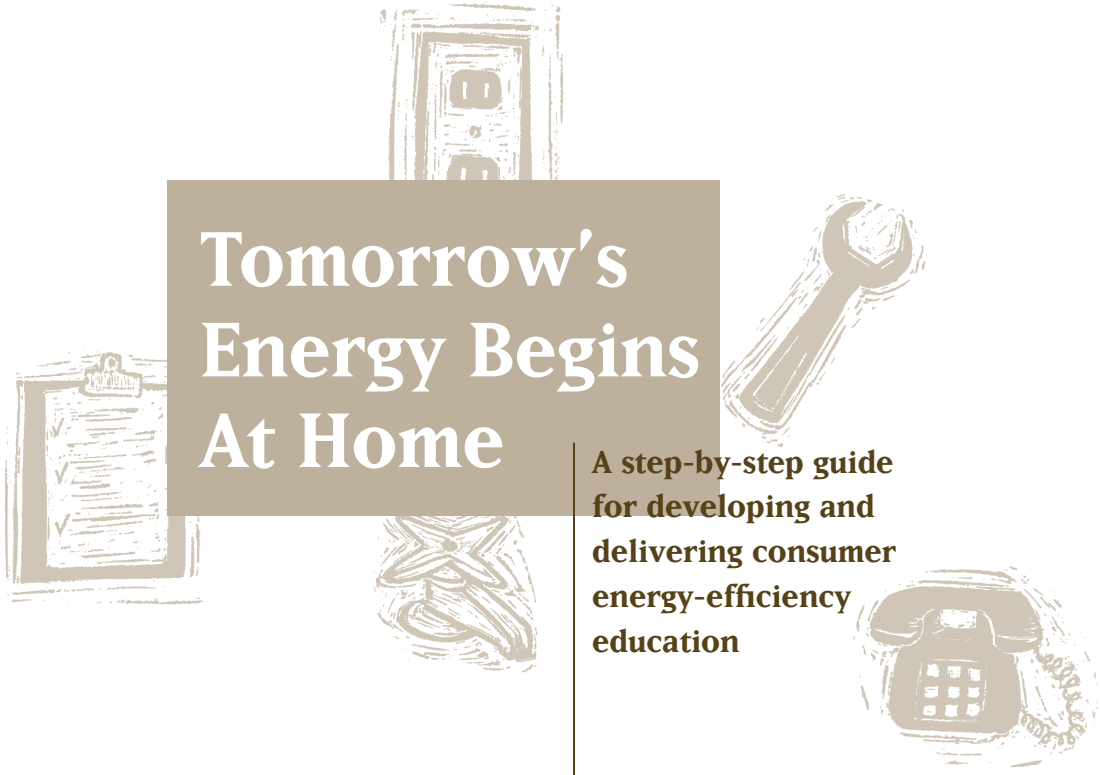

Tomorrow's Energy Begins At Home

A step-by-step guide for developing and delivering consumer energy-efficiency education

WASHINGTON STATE COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT

Building Foundations for the Future

Mike Fitzgerald, Director Enid Buchanan, Assistant Director

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PO Box 48300
Olympia, Washington 98504-8300

April 2005

This publication was made possible through a grant from the U.S. Department of Energy Grant number DE-FG06-90-RL11941

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Adknowledgements

SPECIAL THANKS

The following people deserve special thanks for their, guidance and input through the process:

Project Management:
- Kathy Kreiter

Editing:
- Janet Abbett
- Lynn Bowman
- Dave Brook
- Cathie Halpin

Word Processing: Karen Clow
JoAnn Hanson -

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SECTION II OF THIS PUBLICATION WAS DEVELOPED, IN PART, BY MEMBERS OF THE U.S. DEPARTMENT OF ENERGY, REGION X, REGIONAL CONSUMER ENERGY

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Forward

The development of this publication has been long and arduous. Yet the goal of developing it has always been important and worthy of tenacious pursuit. Many of the techniques for consumer energy-efficiency education continue to emerge and evolve. This publication is an attempt to further the cause of consumer energy-efficiency education. The hope is that through this publication more people will be able to assist others toward indoor comfort and the efficient use of energy.

A good example of the evolution that has taken place is in the name consumer energy-efficiency, education. When the project started we called it client education. This was followed by consumer conservation education, and while the name has changed to better identify what the program is about, so did the method of delivery. It has been shown that simply handing, someone a brochure on energy efficiency does not guarantee that they will take any action, let alone read it. Likewise, we can no longer assume that weatherizing the structure will result in energy savings if the occupants are not educated about the process.

As you deliver consumer energy-efficiency education, be open to ways to improve your program and make it better. If you discover a technique or method that works well for you and is not covered in this publication, let us know. We would also like to know how well this information works for you.

Send your comments to:

Washington State Community, Trade and Economic Development

Housing Services

Attn: Consumer Energy-Efficiency Education

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Introduction

We have grown up taking energy for granted, expecting it to be there working when we wanted it. Over the last fifty years we have seen domestic energy go from a novelty, to a commodity, to a necessity, to something that not everyone can afford. The best way to reduce our dependence on foreign oil is to learn how to use energy more efficiently. -

Today we know that energy can be the string that ties civilization together or the fuse that ignites war. We also know the human tragedy that results when the cost of energy is out of reach for many households.

Consumer energy-efficiency education combines the skills and knowledge of professionals working in the energy field in an exciting way that empowers consumers to understand and take control of how they use energy. In fact, consumer energy-efficiency education can be defined as:

The process whereby individuals and households are empowered to make choices to use energy efficiently, improve their indoor comfort, and made aware of how their behavior affects energy consumption, energy cost, health, and safety within their home.

Energy is a mystery to many people they know it costs money but can't figure out how much or why. Many people know they need energy, but are using it unconsciously. The lack of efficient energy use cuts across all income levels. Although it is those with the greatest economic disadvantage that suffer the most from the mystery of energy.

This publication was designed to provide guidance for those choosing to become involved in helping others learn the ways of efficient energy use. It presents a step-by-step approach to setting up and delivering a consumer energy-efficiency education program.

Those who choose to get involved are encouraged to customize their approach based on the information contained herein and the realities of the situation in which they work. By customize, I mean adding your own information or information specific to your service area. The information and steps contained in this publication are provided as a workable approach that have been tried and proven. This is not the only approach.

It is important to remember that the educator must also be able to customize the approach to meet the specific needs of the consumer. Each household is unique and must be treated as such for the education to be meaningful. This publication has been designed much like a Swiss Army Knife, with something for every occasion, yet the educator must know which tool to use and when to use it.

J. L. Hruska
CTED Housing Services
Olympia, Washington 1993

How to Use This Book

"Tomorrow's Energy Begins at Home" is designed to be a working tool for those involved in energy programs. As such, it should be helpful whether you use it to look up a specific topic or read it cover-to-cover.

There are four principal sections: Key Design Elements, Minimum Standards, Delivering Consumer Energy-Efficiency Education, and Additional Factors. Each section provides detailed explanations of specific characteristics related to consumer energy-efficiency education.

Section I. focuses on the sorts of things one should consider before starting a program. This is the groundwork that will provide your program with a solid foundation from which to proceed. From time to time it may be a good idea to revisit Section I for guidance to specific situations that may arise.

Section Il offers a set of "minimum standards" designed to inform the reader of the least that should be attempted in an education program. Minimum standards are provided for three delivery approaches: In-Office, Workshop, and Home Visit. Section II also examines the various aspects of contracting educational services.

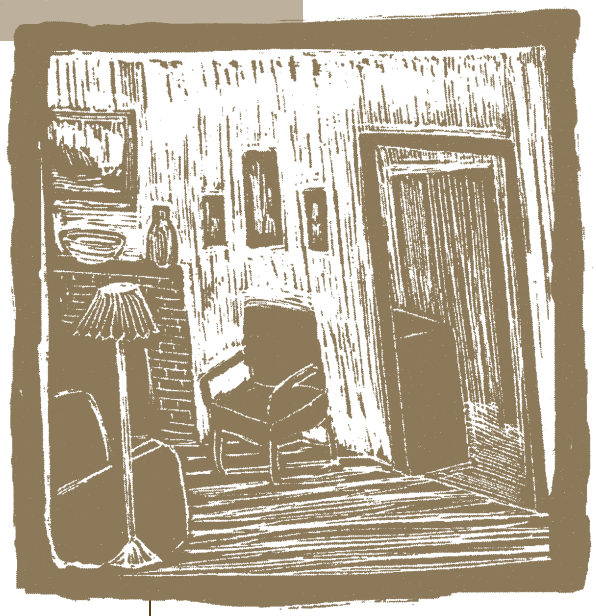
Section Ill lays out four delivery approaches: Home Visit, Workshop, In-Office, and Weatherization Audit. Each approach is divided into steps that take the reader through the process. Section III can be used to design a new program or improve an existing program. The reader should have an idea of the kind of program he or she wants to offer and may find that a combination of the information contained in Section III, provides the best fit.

Section. IV provides information on remedial education, coordination with other programs, and modifying programs to meet specific needs. In addition, it offers a brief look at several programs from Washington State and around the country. These examples show how others have followed (although independently) the basic design of consumer energy-efficiency education.

Finally there is a list of additional sources of information on energy programs. There is also an appendix containing forms discussed within the text that can be reproduced.

Good luck in your efforts. The work you do is important, and it is our hope that in someway you find this book to be useful.

Section I



Key Elements in Developing a Consumer Energy-efficiency Education Program

GETTING STARTED

It has been said that "the best place to begin is at the beginning." When it comes to developing a consumer energy-efficiency education program, it is not only important to start at the beginning but to plan your program as if it were the most exciting vacation you ever took. The time and effort you take up front will more than pay for itself once you're hip deep into your program.

The information presented in this section is designed to assist you in developing a solid foundation for your program. Even if you've already started a program, a review of Section I may provide you with insight on some aspect of the program you have overlooked.

Section I, Key Elements to Consumer Energy-Efficiency Education, is comprised of 12 elements. Each of these elements takes an in-depth look at the factors important in building a quality program:

- Coordination is the key word
- Establishing program goals
- Identifying who will educate
- Targeting the population to be served
- Developing a consumer profile
- Developing a structural profile
- Taking care of logistics
- Marketing
- Delivering the education
- Using the tools of the trade
- Providing follow-up
- Evaluating the program

COORDINATION IS THE KEY WORD

The key word in developing a program is "coordination." The better the coordination, the better your program will be. If you think of coordination as a farmer preparing the fields for planting, then you can truly look upon the benefits of energy-efficiency as the fruits of your labor.

It is important not to plan in a vacuum. Your program will have a greater chance of success if as many of the stakeholders as possible are involved from the beginning. Consumer energy-efficiency education has the potential to cross over many existing programs. Make sure everyone is aware of what you are proposing and allow them an opportunity to comment. Involvement by other programs will give your education program broader appeal and may identify things you were not aware of.

The following list includes programs, agencies, and companies that could become partners in a consumer energy-efficiency education program:

- Community Action Agency
- Local utilities (electricity, gas, water, other)
- Local fuel vendors (oil, coal, propane, wood, other)
- Nonprofit community support groups
- Local food banks/cupboards
- State weatherization/fuel assistance programs
- Private fuel funds
- State Cooperative Extension Service -
- Washington State Department of Social and Health Services
- Head Start Programs
- Housing rehabilitation programs
- Other community groups that assist low-income persons

BRINGING THE STAKEHOLDERS TOGETHER

Hold a meeting and invite all potential partners, stakeholders, and representatives of affected programs. Outline your ideas for a consumer energy-efficiency education program and reach an agreement on its purpose. Some of those who attend the meeting may not be aware of consumer energy-efficiency education. It will be helpful to discuss existing programs and their success. The following examples are reasons or purposes for an education program:

***These are examples, but there are many more reasons that may apply.**

1. There maybe a large number of people within your service area who are having trouble paying their energy bills and are constantly facing a shutoff or increasing arrearage.
2. The local weatherization and energy assistance programs are looking at providing a more holistic approach to energy conservation.
3. The environment may be the reason that an education program is needed. Limited resources and pollution will not only drive up the cost of energy, they may also cause diminished health and a lessening of the quality of life. Increasing energy cost can be viewed as severely impacting low-income persons.
4. The local utility sees consumer education as an important customer service to help get the most out of the energy dollar.

When you bring together other programs and interested persons, you are well on your way towards establishing new partnerships. -Be aware that your new partners may actually have different goals and reasons for pursuing a consumer energy-efficiency education program. Their reasons are also valid and should be respected; their support will be helpful. Support could mean resources and/or funding that will come in handy as your program progresses. Never overlook potential partners or underestimate existing partners.

* **Since you are calling the meeting, be prepared. Have an agenda, record who attends, take minutes and distribute them after the meeting. Come to an agreement on establishing consumer energy-efficiency education program and the roles of the various partners. Set a date, time, and location for the next meeting. Consider having the more interested participants on an advisory board for the education program.**

ESTABLISHING PROGRAM GOALS

Program goals are very important to the success of your education program. Without goals, you will have nothing by which to measure success. Program goals will vary depending on the interests of the partner(s). For example, a nonprofit agency may want to improve the comfort of the household members or prevent shut-offs. The local utility may want to reduce arrearages or improve payment behaviors. Other partners may want to reduce stress or increase the household's control over its energy use. Still others may be interested in improving energy-efficiency and fostering greater self-reliance.

Program goals provide the direction your program will take. Therefore, it is important that they are established up front Program goals must be simple and measurable. As your program evolves, keep the goals in sight. You may want to adjust the goals after the realities of running the program are realized.

Program goals will also be important during the evaluation. Again, the success of the program will be a measure of how well the goals were met. For examples of goals developed by the Washington State Consumer Energy-Efficiency Education Task Force, see Figure I-1.

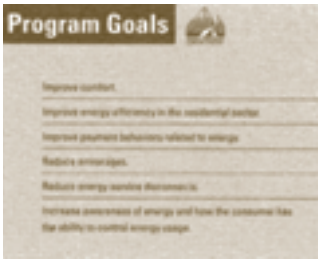


Figure I-1

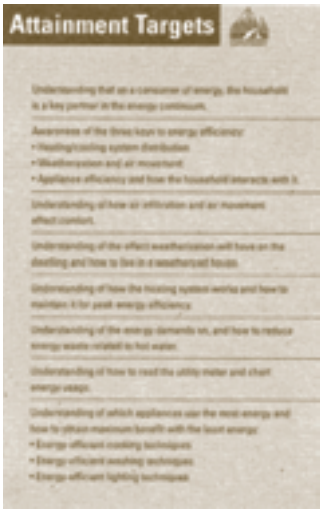


Figure I-2

ATTAINMENT TARGETS

There are other issues related to a consumer energy-efficiency education program that need to be discussed. The first is called attainment targets (see Figure I-2 for examples). These are immediate targets that the educator strives to reach with each consumer. Attainment targets reflect the, principal purpose of the education curriculum that is being used, and reinforce the program goals. The assumption is that if the attainment targets are met, then the program goals will be reached.

ACTION PLAN

There are individual goals that the consumer or household will set for themselves. These goals are called the action plan. Each goal contained in the Action Plan is called an action item. Households will identify at least three action items that they agree to work on after receiving consumer energy-efficiency education. By setting personal goals, a consumer is able to measure his or her own success.

Figure I-3

During the follow-up (which will be discussed later in this section), the action plan and action items can provide points of discussion. This will help consumers remember what they are supposed to do and also help the educator keep track of the consumer's progress. Examples of action plans and specific action items can be found in Figure 1-3 (see Appendix A sample).

IDENTIFYING WHO WILL PROVIDE THE EDUCATION

"Who will do the education?" is a question that asks what organization will administer the program, and who within or outside of the organization, or some other organization, will deliver the education. In many cases, you may already be taking most of the steps of an education program, but never realized it. For example, weatherization auditors may ask the consumer to adjust their thermostat down after weatherization. Simple lifestyle changes such as this will improve energy efficiency and become education when the reasons for the action are explained.

THE EDUCATING ORGANIZATION

When considering the administration of the program, you need to determine who has the necessary resources (funding and labor) and skills. It is also important that the organization has access to information on target populations, a support network, and motivated staff. Finally, it will be very helpful, and key to the success of the program, if the organization has had experience in working with similar populations and understands the needs of target populations.

THE EDUCATOR

Deciding on the educator (the person or persons who will make direct contact with the consumer) is equally important. Some programs hire an individual with special skills and training to be the educator. Others draw upon existing staff who are good communicators and get along well with others. However you decide to proceed, be sure that your educator is trained and understands what he or she is doing. Educators who do not understand the program and the reason for each activity might unwittingly sabotage it by saying something like "I don't know what it's for, they just tell us to do it." Be sure all educators are trained in how to deliver the program and the reason behind each step they do. Educators should also research information on energy-efficiency. Their own homes and local utilities are good places to start.

PRACTICE

Even if the educator is trained, it is a good idea to do a trial run in the office or in the home of another staff member before going into one of your consumer's homes.

Each member of your agency, and all who will be involved as partners in the program, should receive the education program before the first consumer does. This will give you the opportunity to iron out the bugs and make last minute program corrections.

These practice runs will help prepare the educator for the real thing. They will also give everyone in your office and your partners a clear understanding of the program, which will be beneficial towards integrating energy-efficiency education into existing programs. Most of all, it will help motivate all involved as they will have a full understanding of how the program works.

The need to understand energy use and to control one's consumption of energy is not something just low-income people need know - everyone needs to understand its importance.

TYPES OF EDUCATION DELIVERY APPROACHES

The educating organization will need to decide which education delivery approach best meets the needs of the population to be served. Each delivery approach has its unique attributes designed to best serve the consumer. Education delivery approaches include intake, group workshops, home visits, and weatherization audits. Each of these approaches will be explained in detail in Section III of this document.

KNOW THE SITUATION

The educator must always remember that each household is different. Be sensitive to each situation and never assume anything or deliver your education program on automatic pilot. Providing the right information in the wrong place or at the wrong time can be more damaging than simply providing the wrong information. An example would be for the educator to discuss energy saving techniques related to using the dishwasher when the consumer doesn't have one.

The successful educator will build upon what the consumer is already doing and show what needs to be done to improve comfort and energy-efficiency. Acknowledging the efforts the consumer is making and guiding him or her to new possibilities will be much more effective than preaching conservation to the consumer.

Anyone who is willing to talk to another person can learn to become a good educator.

TARGET THE POPULATION

Defining the population that you want to educate is a question of factors. You must determine who stands to benefit the most from education. The individuals you choose to educate will to some degree, also determine the type of education you provide There are many factors, that can be used in targeting; the main thing to always keep in mind is, why are you targeting? This question is directly related to the total number of households you can serve.

TARGETING CONSIDERATIONS

If you decide to work with everyone who is in arrears or who is having payment problems, your program may focus specifically on getting people to pay their bills on time or to enroll in an even-payment plan. If you are looking at high usage as the primary factor, then you will need to be ready to focus on energy- and money-saving techniques.

You may decide that everyone who receives weatherization will automatically receive consumer energy-efficiency education. This is an excellent approach. In fact, it is a natural way to round out a holistic energy program, and hopefully one that will be widespread in the future.

Targeting is a means by which you can take a large population and break it down to a workable size. If, on the other hand, you have more people than you can possibly serve, you may want to use some method of targeting. One factor you're probably already considering targeting for is-income (everyone at, or below, a specific percentage of the federal income guidelines could be eligible for the program). Energy usage is also a factor that can be used to separate one group from another. Energy usage should always be viewed in terms of high, average, and below average users.

You may choose to offer the program only to customers of specific utilities who are helping to finance your program. You may target households with seniors or those with children under five. The type of housing consumers live in is also a factor that may be used as a target. Everyone in mobile homes, apartments, or houses that are being rehabilitated could provide your target population. Household size and language are other factors to consider.

CONSUMER MOTIVATION.

Again, unless your program has the resources to provide education to everyone who asks, targeting may be the way to go. Targeting should never be used to discriminate, but should be used to help make your program more effective. A final thought on targeting is that some people are more motivated than others. Motivation on the part of the consumer to help themselves is an important factor to consider. Likewise, if it is clear that the consumer wants nothing to do with you, or your program, or is not willing to take steps to help themselves, then thank them for their time and move on.

DEVELOPING A CONSUMER PROFILE

The purpose of the consumer profile is to provide a source of information specific to an individual consumer or household. The type of information that is contained in the Consumer Profile is basic (name, address, telephone number, household demographics, and income by source and wage earner). This information may already be available on another application. Rather than have the consumer fill out more paper work, you can coordinate existing information and have the consumer verify it.

* **Verification by the consumer can be accomplished over the phone when possible, thus economizing time for education.**

ENERGY USAGE HISTORY

The consumer profile should indicate all energy providers that the consumer is currently using. You should have at least 12 months of usage and payment history information, although the lack of a 12-month usage history is no reason to eliminate a household from the program. Usage and payment histories are used to provide consumers with a clear comparison of how they use energy before and after the education program.

Some utilities require a signed, release from the consumer in order to obtain usage and payment information (see Figure 1-4 and Appendix B). If 12 months of usage history-is not available, request all that is available. Usage histories will only work if it is the consumer's household usage. If others have lived in the dwelling prior to the consumer you are working with, their usage may be interesting, but it is not relevant to the current household.

PLOTTING USAGE

Plotting usage history on a graph will be helpful during the discussion of appliance usage. The Guidebook has a page entitled Tomorrow's Energy Begins at Home (see Figure I- and Appendix C). Make a copy of this page and plot the consumers, usage on it before going to their home. Again, this will gave time during the education session.

Figure I-4

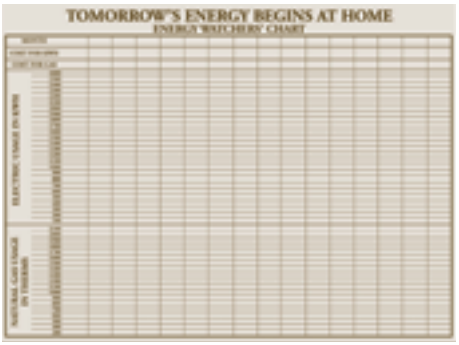


Figure I-5

ENERGY ASSISTANCE AND WEATHERIZATION

The profile should also include information on monthly energy cost, payments, and arrearages: The number of times the consumer has applied for energy assistance or other fuel assistance programs will also be relevant. If the consumer has applied for weatherization, this should be noted as well. If the home was weatherized, make a note; however, a more detailed account of thermal improvements should be made in the Structural Profile.

EDUCATIONAL CHALLENGES

The consumer profile needs to indicate any language, speech, visual, hearing, cultural, or special needs the consumer may have. Once identified, be sure the educator is prepared to address those special needs when working with the consumer.

CONSUMER'S ENERGY USE CONCERNS

Most importantly the consumer profile should also include a statement from the consumer about how they feel they are using energy (i.e., my bills are too high, but we're always cold; we use more than we can afford; I think there is something wrong with my meter; there might be something we could do to use less; we use what we need and can afford). In addition, the profile should include a statement about how the consumer feels about the energy-efficiency of their home and what it needs. These statements need to be viewed by everyone who comes in contact with the consumer so that they can work towards addressing the consumer's energy concerns.

* **Many consumers will request storm windows when asked whet they need to save energy. This response may he related more to the perceived comfort storm windows would offer than real energy savings.**

STRUCTURAL PROFILE

The Structural Profile will help identify the specific needs of the dwelling (see example in Figure I-6 and Appendix D). It can also be used as an aid to focus specific educational approaches. At a minimum, the structural profile should include name and address of owner, if different than occupant, and type of dwelling (single-family, multi-family, mobile home, etc.). The structural profile should also include a drawing of the dwelling that indicates all rooms, identifies those that are heated, and shows square footage.

COORDINATE WITH WEATHERIZATION

Before you throw your hands up and exclaim that you are not an artist, remember that drawings are required for weatherization and you may be able to get a copy from the weatherization auditor.

If you are working outside a weatherization program and don't have access to structural drawings, do the best you can. The drawing doesn't have to be perfect, but should be understandable by another reader. Again, try not to duplicate something that has already been done. Make copies of existing drawings or coordinate all information under one filing system.

The reason for the drawing is to document the living area currently being used. Often, the amount of heated space changes after weatherization and education. This change has been known to cause an increase in energy usage when more space is heated.

Heating more space after weatherization or education is known as "take back." The consumer takes back space they were unable to heat comfortably or affordably. It is important to know how the household uses their dwelling prior to designing their specific educational program.

One method to neutralize the change in heated space is to calculate energy used per square foot. To obtain this figure, divide the total energy used by the square footage of the heated space. To make this universal to all heating types, energy used will have to be converted to million Btu.

The following conversions will be helpful in calculating energy used by square foot:

- 1 gallon oil/kerosene = 138,700 Btu
- 1 ton coal 27,000,000 Btu
- 1 cord wood 17,000 Btu
- 1 therm 100,000 Btu
- 1 kwh = 3,413 Btu

Figure I-6

Figure I-7

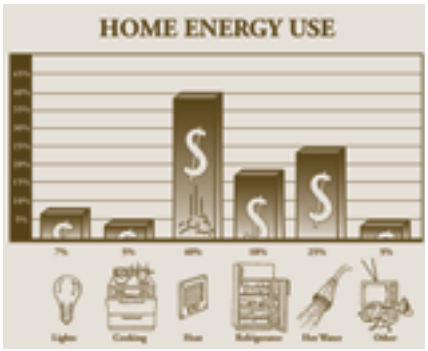


Figure I-8

INVENTORY OF APPLIANCES

Included in the structural profile should be a room-by-room inventory of major appliances. This information will be helpful in identifying high energy users and developing recommendations for their efficient use. The inventory can be conducted during the walk-through that takes place while the educator is at the consumer's home. The consumer may be able to provide a room-by-room listing of appliances as part of their pre-education/weatherization responsibilities. If you are going to ask the consumer to provide this information, provide them with a checklist (see Figure 1-7 and Appendix E). Once you have inventoried the appliances, it will be helpful to know their typical energy usage (see Figure 1-8).

STRUCTURAL NEEDS

The structural profile should indicate weatherization and rehabilitation needs. If this work has already been completed, indicate what has been done and when. Again, this information is available from the weatherization and rehabilitation programs.

OUTBUILDINGS AND GARAGES

Finally, be sure not to overlook outbuildings that may contain appliances or other energy uses. Power tools, heaters, freezers, and refrigerators located in outbuildings may account for a major portion of the household energy bill. These uses are often overlooked.

TAKING CARE OF LOGISTICS

The final preparation step is the Logistics of setting up your home visit or group workshop: There are several things to remember when making a home visit or holding a group workshop; probably the most important is to remind the consumer(s) when you plan to arrive at their home, or the time they should be at the workshop. A phone call at the beginning of the week or the night before can reduce the number of no -shows.

SCHEDULING

Home visits should be scheduled when as many family members as possible are present. The date and time must be clearly agreed upon. A confirmation call or letter will save wasted time. Cultural sensitivity is important when doing home visits. Make sure you are aware of holidays, protocol, and other unique cultural norms before you visit.

GROUP WORKSHOPS

Group workshops need a facility or location. Be sure to find a room that will provide a comfortable environment for everyone. Sometimes a small group can meet in the home of another consumer (if the consumer is willing). This will provide a friendly atmosphere and will also provide excellent opportunities for hands-on demonstrations. Providing refreshments will help make your workshop more relaxed and enjoyable.

Whenever you plan a group workshop, make sure that everyone has directions and knows where to park. Locations for group workshops should be on 'established bus routes (when possible) to assist the consumer in getting there. It may be necessary to pick up the consumers and transport them to the workshop.

Providing child care at group workshops is important, even with small groups. Always try to involve the children in some activity that is related to the education their parent(s) receives. Many utilities have coloring books with a conservation theme; it is always good to have a supply of these with you. Obtain permission from the parent(s) before handing out crayons or other writing instruments. Sometimes young children are more interested in making their mark on the world than in coloring books.

BE PREPARED

Have the consumer profile and the structural profile ready and available to add information, as you see it. After putting together the profiles, you should have a good idea of the basic focus your education package will follow. Make sure you have all relevant information and handouts you will need.

RECORD YOUR OBSERVATIONS

Take time during the education process to make notes as you go through the session. Accuracy diminishes the further one gets from the education site. In addition to handouts, make paper, pencils, and clipboards (writing surface) available for the consumer to take notes. If your program can afford it, it is a good idea to provide folders so the consumer can keep all energy-efficiency education materials together. Keep in mind that too many handouts may overwhelm the consumer. Try to keep information handouts to a minimum, making sure they are relevant and well organized and in the reader's primary language.

Prior to a home visit, it is very important that the consumer understand that you plan to do a walk-through of the entire house. This understanding will avoid any surprises to the resident after you have arrived.

MARKETING

Consumers are not always ready to embrace new concepts like energy efficiency education. It has been shown time and time again that if you send surveys to consumers asking them if they would like to participate in a education program, most will not respond. A lack of response usually does not deter educators who are on a mission, and often does not result in poor participation. What it does is point out the need to always be selling your program.

SHOW YOUR ENTHUSIASM

The best way to sell your program is to shown enthusiasm for it and really believe that it will work. Enthusiasm is contagious. If you're enthused, the consumer will pick up on it and also become enthused. Likewise, if you drag your feet and approach the education as a burden or a waste of your time, the consumer will pick up on that as well.

Never say you've tried something unless you have.

There are several ways to sell your program. Whoever makes first contact with the consumer should speak of the program in upbeat terms such as "Great!" "Really Wonderful!" "I just know it will make a difference" "Everyone loves it!" "I'm excited about the opportunity!" The use of such expletives is not limited to verbal communication. Use these or similar terms when writing to consumers. As always, the most convincing statement ism "I've tried it and it really works for me."

CLOSING THE "SELL"

The main point in marketing is to treat the education as if you were selling it to the consumer. Never consider the sale final until you have completed the follow-up. Remain upbeat and positive at all times, even if the consumer shows an increase in usage (or fails to meet other program goals) after you've provided education. No doubt the consumer, if asked, will be able to explain why there was an increase.

EDUCATING THE CONSUMER

Detailed step-by-step directions for delivering consumer energy-efficiency education are covered in Section II and III of this book. The purpose of this chapter is to highlight the important aspects of delivering energy-efficiency education in general. The information covered herein will be useful regardless of the delivery approach you use.

BEGINNING

Always start the education session with an explanation of how long it will take, what will be covered, and what the consumer's role is in the process. Ask the consumer to tell you how they use energy and where their problem spots are, if any. The educator can also use the information from the consumer profile to begin the discussion on energy use.

SIMILAR, BUT DIFFERENT

Residential energy use is similar in all cases, in that there are only a few end use categories into which energy use can be divided. By knowing how to categorize home energy use, you are able to focus on the big users. In most homes, the greatest energy use is for space heating and cooling. Water heating is next, followed by refrigeration, including freezers. Lighting and cooking use the next highest amount of energy, followed by all the various household appliances. Each home may also have a unique energy use that could be easily overlooked because it is seldom seen. Always be on the lookout for high energy uses that don't fit the norm such as waterbeds, sump pumps, and aquariums.

OBSERVING

As an educator you must learn to observe. Look for anything out of the ordinary which might affect energy use. You must also be ready to move down the list of end-use categories if the top energy users (heating and cooling) are not present in the home. This is also true of lower end-use categories; if one is not present, the next highest takes its place.

An example of this would be a home where space heat, cooling, and water heating are included in the rent. Consumer's are responsible for all other energy use and may feel their usage is too high. In this situation, the educator would focus on refrigeration, cooking, and lighting. However, always be on the lookout for other uses that might surpass the normal end-use categories.

PAST EDUCATIONAL EXPERIENCES

Many people have had bad experiences in a structured school environment. As adults, they will be apprehensive of any system that resembles the structured education of their youth. As an educator, you will need to establish a rapport with the before you begin your program. Open the doors to two-way communication; be as good a listener as you are a speaker. Above all, make the consumer feel relaxed and informal, as if they are having an old friend over.

ADULT EDUCATION

There are several things to be aware of when delivering consumer energy efficiency education:

1. While consumer education is important to you, it may be a low priority for a particular household. Try to assess the consumer's motivation and willingness to participate. If a family crisis has come up, the consumer may not be in a receptive frame of mind. If you can help or refer the consumer to help, do so and reschedule the education.
2. You will need to make judgment calls that will direct the course of the specific educational session. For example, while we all know that cleaning the refrigerator coils will save energy, this may not be useful information to someone who is not an organized housekeeper. Focus on information that the consumer is capable of understanding and doing.
3. If the consumer is not motivated, try to explore what will motivate them and relate it to energy savings or comfort. If the consumer is visibly intoxicated, reschedule. If the consumer is constantly being interrupted, explain that you have other, people to work with and that unless they can give you a specific amount of time, you will have to reschedule.
4. If you work alone, always let others know where you will be and a number where you can be reached. Check in with the office before going to the next session. Never allow yourself to be put in an uncomfortable situation regarding your personal safety.

Being an educator is not an easy job. You must be skilled in many things, trained in methods and techniques, be a communicator, be a good listener, and be believable.

Above all, you must know when to use your different talents, skills, and tools in order to achieve the best results for the consumer.

HOW ADULTS LEARN

Since you will be working primarily with adults, there are some things you will need to know about adult learning. The following information was obtained from The MWX90 Protocol: A Model Minnesota Low-Income Weatherization Program for the 1990s, and Training Manual Volume 1: Client Education, by Bonnie Esposito, Lydia Gill, and Lester Shen, published by the Underground Space Center, University of Minnesota.

1. Adults will take action and make changes in their lifestyle, if it is in their own self-interest to do so. There fore, the educator must first help the consumer understand what is in their self-interest and point it out.
2. Adults will seek to learn information that they can put to immediate use. The educator should tailor the energy-efficiency information to match the season (winter, spring, summer, or autumn).

3. The educator needs to present information that will have the biggest overall impact on energy savings and comfort for that consumer.
4. Adults will learn when they see the connection or relationship between the action they take and the benefit it produces. Educators need to help' consumers see the connection, relationship, and applications of the, consumer's actions in order to increase learning motivation.
5. Adults will learn more and are more receptive if they are directly involved in solving a problem. The educator should help the consumer see the problem, guide the consumer towards imaginative solutions, point out ways to determine the best solution, make sure the consumer has the necessary skills and tools to take action, allow the consumer to take action,- and show the consumer 'how to monitor the results. This could be as simple as letting the consumer measure the water temperature with a thermometer.
6. Adults will switch off if they feel' uncomfortable, ignored, patronized, talked down tom used, laughed at, or embarrassed. The educator must never overlook actions the consumer has already taken or treat those actions as trivial. Always allow and encourage the consumer to tell you what they have done to save energy or improve comfort.
7. Adults will respond in a more meaningful way to goals that are in familiar terms. When establishing Action Plans be sure to allow consumers to phrase them in their own words.
8. Although the term educator conjures up images of a teacher, the educator must think of her/himself as a facilitator and not assume the role of teacher where the consumer is the student. As a' facilitator, the educator must help the consumer learn by being a resource. Don't view the consumer as a dependent object or personality that can only function if the educator holds their hand and tells them how to do things.

CLOSURE

A short review of what was covered can reinforce information presented. It may remind the consumer of a question they had forgotten to ask. Arrange a date and time for follow-up. Explain what will be covered in the follow-up and what the consumer needs to have ready. If there will be additional activity (weatherization or another session) explain what will happen and when. Reassure the consumer that they can call you if they have a question or problem with any of the information that was covered. Be sure to give the consumer your phone number and address.

Have the consumer complete the Consumer Energy-Efficiency Education Report Card (see Figure 1-9 and Appendix F). Explain the importance of the report card as a way to document that the session was completed and what information was covered.

Figure I-9

Give the consumer another opportunity to ask questions. Answer all questions as best you can, or let the consumer know that you will find the answer and get back to them. Remember your credibility and the consumer's motivation are on the line. If you say you will get back to them, do it. Thank the consumer for their time and wish them success with their action plan.

OFFICE REVIEW

In the car driving home (if someone else is driving), or once back in the office, the educator should take the time to review the notes from the session. It is helpful to write a short summary. List all observations that were made that impact the consumer's use of energy and any action items that the consumer identified.

Organize the consumer files to be sure all information is present. If the consumer had questions that the educator could not answer, make a list and find the answer. If the educator told the consumer that information would be mailed, gather the information together and mail it.

Once the files have been checked for completeness, also check to see if any referrals were requested or suggested, and follow through. Likewise, if the files are to be sent to other programs, such as weatherization, be sure this is done. A checklist is helpful. Attach one to the outside of each file and check off items as they are completed. This will aid in quick review of completeness.

There may be other recordkeeping that needs to be done to document your session. Be sure this is completed as soon as possible. Recordkeeping always seems like a lot of work, but if it is done on an ongoing basis, it is manageable. The results that can be obtained from a well-kept recordkeeping system will be of great benefit to your program.

USING THE TOOLS OF THE TRADE

As an educator your motto should be, "Always be prepared to deal with the unexpected." As in any profession, there are tools that will make the educator's job easier. The best tool, and one that will be most helpful to the educator and the consumer, is the knowledge the educator has on the subject. A good educator never tires of learning and seeks to find out as much as possible about the subject. This includes using your own home as a laboratory for experiments in energy conservation.

Other tools vary in importance, and the educator will have to decide how much they want to carry around. In some cases, the program design may require specific tools. The following list is designed to give program designers and the educator an idea of the types of tools that can be used to assist in an energy-efficiency education program.

- **Adjustable wrench** - used when installing low-flow shower heads.
- **Blower door** - used to identify the location of air leaks and to measure air changes.
- **Calculator** - used for figuring out energy usage and other mathematical questions.
- **Clipboards** - used for writing during a walk-through. An extra clipboard should be available for the consumer.
- **CO Tester** - used to measure the amount of carbon monoxide in the air inside the living area.
- **Coloring books and crayons with energy topics** - helpful when young children re present.
- **Compact fluorescent light bulbs** - used for replacement lighting, incentives to participate in the program, or gifts.
- **Consumer Energy**- Efficiency Education Guidebook - used as a communication tool, it provides the educator with pictures, graphs, and conservation information.
- **Flashlight** - a handy tool for use in dark places and checking gaskets on refrigerators and freezers.
- **Infrared camera** - used to locate voids in insulation and thermal passages.
- **Manometer** - used in conjunction with blower door to measure pressure differences which is useful in discovering air leakage:
- **Low-flow shower heads** - installed as a replacement for water guzzler shower heads.
- **Plumbers tape** - used to wrap the threads on the shower pipe when installing a low-flow shower head, to prevent leaks.
- **Pressure pan** - used with blower door and manometer to test duct work for leaks.
- **Rags** - used to wipe items that cannot be touched without cleaning.
- **Screw drivers** - both phillips and a flat head. Useful in accessing water heater controls, attic, and crawl spaces.
- **Sling psychrometer** - used to measure the amount of moisture in the air or relative humidity.
- **Smoke pencil** - used with blower door to help illustrate air movement.
- **Tape measure** - used to measure the size of rooms or areas that need weatherization.
- **Thermometer** - with a degree range from below zero for freezers to above 1608 Fahrenheit for water heaters. Because of the degree range, two thermometers may be needed. . Unless the consumer is familiar with centigrade thermometers, they are not recommended.
- **Watt meter** - used to measure the amount of energy used by a specific appliance.
- **Weatherstripping** - used to show examples for self-help demonstrations and to give as incentives or gifts.

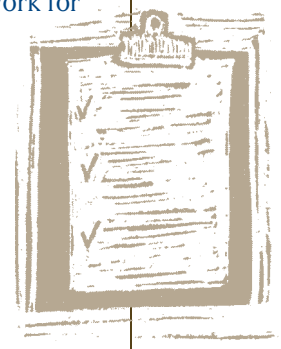


Figure I-10

PROVIDING FOLLOW-UP

After a household has received the complete education package (one-on-one sessions or group workshops) it is important to provide monthly follow-up. The idea of follow-up is to reinforce the information presented during the education, to keep it alive in the mind of the consumer, and to address any questions the consumer may have. Follow-up should be done shortly after the consumer receives their utility bill so that once follow-up ends, the utility bill will provide an on-going reminder.

Conducting the follow-up over the phone is the most cost effective and expeditious method. It does not matter who calls whom as long as both parties are aware of the timing of the call.

The follow-up contact should be as brief as possible, without giving the impression of being rushed. The person doing the follow-up does not have to be the person who did the education,, but he or she should be familiar with the information that was presented. All contact should be friendly and done on a first-name basis, if the consumer is comfortable with this informality.

INFORMATION GATHERING

Since the follow-up is designed to reinforce the education, the caller should ask about specific action items. In addition, the caller should ask about and record the consumer's energy consumption for the month. A card file with the consumer's name, phone number, address, number in the household, call date, usage graph (all fuel types), and room for comments should be used.

The follow-up contact should take place once a month for a minimum of six months (or as many as fourteen months); therefore, file cards (Figure I-10 and Appendix G) should be large enough to store all information. If additional cards are needed, they should be attached to the first card so that all information is in one place.

EXAMPLE FOLLOW-UP CONVERSATION

The following is an example of a routine follow-up conversation:

"Hello, is (ALWAYS ASK FOR A SPECIFIC PERSON) there? This is (CALLER'S NAME) from (AGENCY). I'm making my monthly call to see how everything is going with your energy program. How are you today?" (If you ask how someone is, allow them to tell you, but don't allow the discussion to he diverted from your purpose,)

"Have you had an opportunity to (ASK ABOUT ONE OF THE ACTION ITEMS, AND IF IT HAS BEEN HELPFUL. RECORD COMMENTS FOR FUTURE REFERENCE)?" Ask about other action items. (If the consumer has any questions, write them down

and ask when would be-a good time for someone to contact them to provide answers to their questions. Refer questions to the educator. Let the consumer know that the educator will be getting in touch.)

"Have you received your utility billing for the month? Do you know how much energy you used?" (Comment on usage based on history. If less or same compliment-if higher probe reason, but be encouraging.)

"Well that's it. Do-you have any questions?" (If caller cannot answer consumer's question, write it down and have someone who knows the answer, like the educator, get back to the consumer as soon as possible.)

"OK, I'll talk to you next month on the (DATE) at (TIME). Is that a good time for you? (If not, set a time that is better.) Bye, have a good day. (If questions are left unanswered, assure consumer that someone will get back to them.)

FOLLOW-UP FILE CARD EXAMPLE

Record all information, including questions, obtained from follow-up contact on a file card (Figure I-to). If the consumer had questions, make sure that they are forwarded to the proper individual for action. Questions can be answered either over the phone or through the mail. Make sure the consumer knows the procedure for answering questions. Also, make sure questions are answered as soon as possible. Allowing questions to go unanswered may destroy consumer confidence in the program. At the end of the follow-up period, the card file should be placed in the consumer's master file.

Figure I-11

CLOSURE

At the end of the follow-up period (six to fourteen months), the consumer needs to be notified that the program is over. This should be a formal notification, in writing, and may include information on energy savings.

Presenting the consumer with a certificate suitable for framing (Figure 1-u) is a good way to illustrate the point that the program is over or completed. Rewarding the consumer for achieving a level of understanding and control over their household's energy use will go a long way towards persistent energy-efficient behavior. A graduation ceremony is also a good way to acknowledge the consumer's accomplishments and to formalize closure.

FAILURE TO IMPROVE

Hopefully, the repetition of information generated by the follow-up has made a lasting impression on the consumer. If, after the follow-up period, the consumer has failed to make improvements, the educator may want to make a remedial visit.

Doing a remedial visit is a judgment call on the part of the educator and may also involve the board that oversees the program. Remedial education should only be attempted if the educator believes that the visit will make a difference

and if the consumer is willing. While it is natural to look at energy savings as the main indicator of a successful program, it is not the only indicator. Program goals and the consumer's goals or action items should be reviewed in a determination of success. Additional information on remedial education visits is covered in Section III.

EVALUATING THE PROGRAM

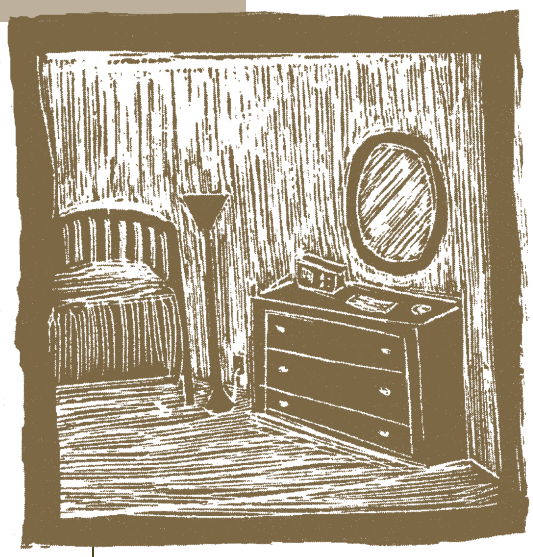
Every consumer energy-efficiency education program should be designed so that it can be evaluated. From the beginning, information needs to be collected and stored so that it can be retrieved at a later date. What you collect depends on the kind of evaluation and the goals of the program.

There are two types of evaluations that are important: process and impact. A process evaluation will reveal how well the mechanics of your program are operating. An impact evaluation will reveal how effective the program was in reaching its goals.

As mentioned in the section on Establishing Program Goals, "without goals, you will have nothing by which to measure success." It is important to have goals that will give meaningful information in an evaluation. Deciding to evaluate a program after it has been completed will inevitably leave data gaps that could reduce the significance of the evaluation.

Without goals, you will have nothing by which to measure success.

Section II



Minimum Standards for Consumer Energy-Efficiency Education

INTRODUCTION

There is no limit to how much education one can receive. However, it is important to establish a threshold or minimum amount of energy-efficiency education. The following minimum, standards are designed to expose the consumer to enough information to make a positive change in their energy usage.

DEFINITION OF CONSUMER ENERGY-EFFICIENCY EDUCATION

The minimum standards are based on the following definition of energy-efficiency education:

> **The process whereby individuals and households are empowered to make choices to use energy efficiently, improve their indoor comfort, and made aware of how their behavior effects energy consumption, energy cost, health, and safely within their home.**

IMPORTANCE OF SETTING MINIMUM STANDARDS

Minimum standards are important in that they provide guidance to the education agency and a method of measuring performance of the agency by the funding source. The minimum standards provide clear checkpoints to guide the educator through the process. It is important to know how to identify the beginning, middle, and end of the program, and the minimum standards can offer that.

It is just as important to understand that these are the minimums that need to be addressed in a quality consumer energy-efficiency education program. Those who deliver consumer energy-efficiency education should always be looking for ways to improve and expand the program. Take the initiative to go beyond the minimums as long as you believe that what you are doing is beneficial to the households you serve.

The minimum standards will, if delivered with enthusiasm, improve the way consumers use energy and increase the comfort level within their homes: Additional information on specific techniques of delivering consumer energy-efficiency education are contained in Sections I and III of this document.

ELEMENTS-OF MINIMUM STANDARDS

The minimum standards are divided into three delivery approaches: In-Officem Workshop, and One-On-One Home Visit. Each delivery approach is discussed at length and in detail. All delivery approaches consist of seven parts that include:

- Target population to be served
- Assess energy needs and educational options
- Increase consumer's knowledge and awareness
- Develop commitment to take action
- Process evaluation
- Reinforce the commitment
- Program evaluation

In-Office Consumer Energy-Efficiency Education

LOGISTICS

Location: Energy assistance or weatherization intake office.

Time: Between 1 and 20 minutes.

Cost: Between and $3.75 per consumer based on $15 per hour wage and fringe benefits of intake worker.

Materials: Provided by funding source.

Training: Initial training provided by funding source

ELEMENTS

Component	Activity
1. Target population to be served	A. Identify how consumers are to be selected. B. Project number to be served.
2. Assess consumer's energy needs and education opportunities	A. Administer household energy survey (see Figure II-1 and Appendix H) addressing: 1) Using energy efficiently 2) Improving indoor comfort 3) Understanding energy-related costs 4) Understanding health and safety issues
3. Increase consumer's knowledge and awareness	A. Focus on consumer's top priority from the above four areas that will have greatest impact on the consumer's energy needs. B. Use relevant supporting materials, e.g.' Consumer Education Guidebook, low-cost self help materials, utility/state utility commission brochures, Ten Quick Ways, etc.
4. Develop consumer's commitment to develop Action Plan.	A. Consumer commits to taking specific actions related to information discussed above.
5. Process evaluation.	A. Educator tallies area of consumer energy need, type of actions consumer commits to, refusal to participate, and special needs. (This information will be reported to funding source.
6. Reinforce the commitment.	A. No reinforcement required (see Program Enhancement Options)
7. Program Evaluation	A. At the end of the program (or when agreed to by funding source and agency), agency will discuss outcome and perceptions of education with funding source. B. Program report should include number served average time spent per session, amount/type and cost of giveaway materials.

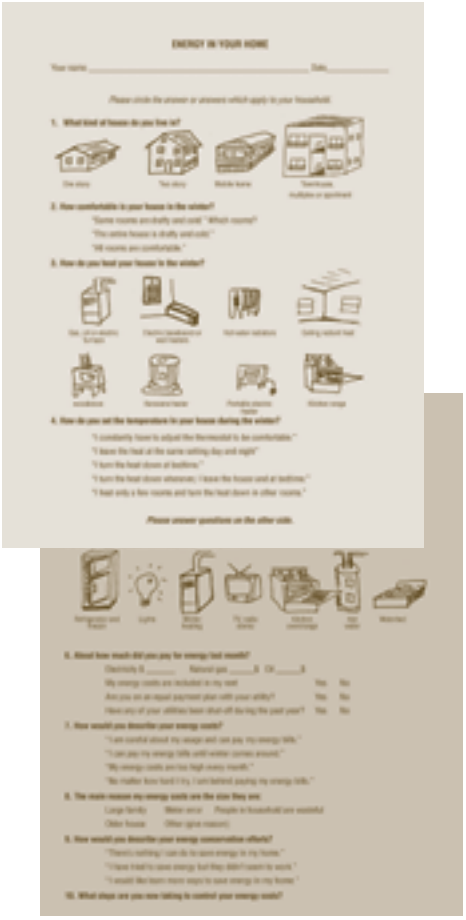


Figure II-1

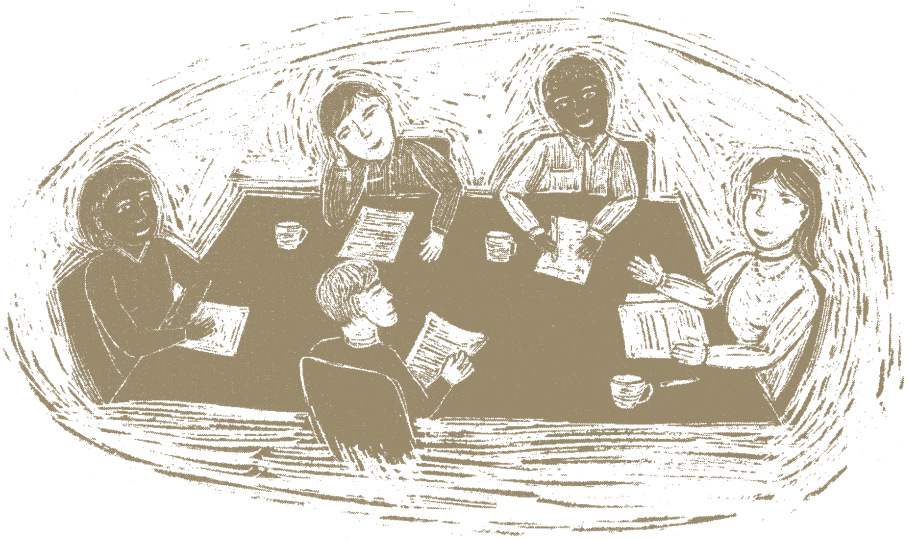
Consumer Energy-Efficiency Education Workshop

LOGISTICS

Location:	Large room with tables and chairs, convenient to transportation (free or donated is best). A willing consumer's home works well for small groups.
Time:	Between 1 and 2 hours.
Workshop Size:	Small groups 5 – 12, large groups up to 30.
Cost:	Between $5 and $10 per consumer per hour.
Materials:	Provided by funding source
Training:	Initial training provided by funding source.

ELEMENTS

Component	Activity
1. Target population to be served.	A. Identify, how consumers are selected. B. Project how many consumers will be served. C. Project total number of workshops. D. Project number of consumers per workshop. E. Determine how long workshop will last.
2. Assess consumer's energy needs and educational opportunities	A. Assess consumers, energy needs related to: 1) Efficient energy usage 2) Improving indoor comfort 3) Understanding energy costs 4) Understanding health and safety issues. Surveys, pre-tests, or discussion may be used in this assessment. B. Review responses with group, looking for common ground, misconceptions, and areas of greatest potential for education.
3. Increase consumer knowledge and awareness.	A. Present information on the four topic areas identified above, focusing on issues common to the group. B. Use relevant supporting materials, e.g., Consumer Education Guidebook, videos, utility or state utility commission brochures, Ten Quick Ways.
4. Develop consumer's commitment to action.	A. Participants discuss action items that could be beneficial toward addressing their energy needs. B. Educator helps consumers focus on most relevant action item ideas. C. Consumers write down three action items they are willing to try.



Component	Activity
5. Process evaluation.	A. Participants are asked to complete a survey. This can be administered to a class with an educator reading the questions and allowing some discussion, or participants can fill out a session report card.
	B. Educator records their perceptions of the workshop, degree of interaction, effectiveness of presentation, and degree to which workshop succeeded in addressing consumers' energy needs.
	C. Educators record their perceptions of workshop and review after and before each workshop
6. Reinforce the commitment.	A. Consumers are given a postcard to fill out with their name, address, and three action items. B. Agency mails postcards to participants 2-3 weeks after workshop. C. Reinforcement should also take place during any subsequent home visits such as weatherization assessment, audit, or inspection.
7. Program Evaluation.	A. At the end of program, or at a time agreed to by agency and funding source, agency discusses outcome of program and perceptions with funding sources. B. Program reporting includes number of consumers served, number of workshops held, average size of workshop, average length of workshop, education materials used, amount! type/cost of giveaways, results of pro cess, evaluation, and any special needs of con sumers.

Consumer Energy-Efficiency Education Home Visit

LOGISTICS

Location: Consumer's home. This is an individual session between the educator and the consumer and as many of the consumer's household members as possible.

Time: Approximately 60-90 minutes.

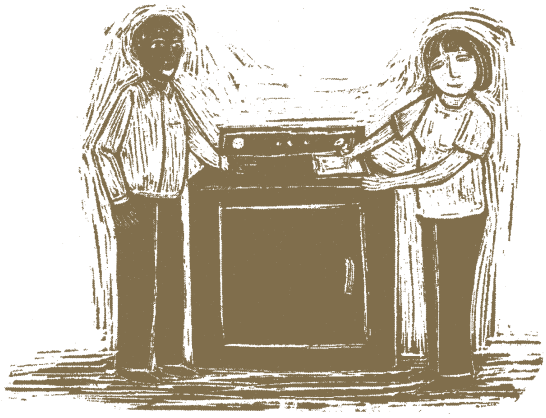
Cost: Between $50 and $129 per household.

Material: Provided by funding source.

Training: Initial training provided by funding source

ELEMENTS

Component	Activity
1. Target population to be served.	A. Identity how consumers are selected. B. Project number of consumer households to be served.
2. Assess consumer's energy needs and educational opportunities.	A. Educator reviews consumer's application to become familiar with the household including: 1) Energy consumption history. 2) Energy payment history. 3) Talking to weatherization auditor. 4) Talking with other agencies/programs who provide services to the household. 5) Review previous applications and surveys. B. Home energy walk-through with consumer to identify the following as applicable: utility meters, heated area of house, heat source/type distribution/use; hot water source/type; temperature/use; major appliances, envelope thermal efficiency needs, and health and safety issues on all the above. C. Educator shows consumer how to read and understand energy bills when applicable.
3. Increase consumer's knowledge and awareness.	A. Educator and consumer discuss observations and findings from walk-through and focus on: 1) Efficient. energy usage. 2) Improving indoor comfort. 3) Understanding energy costs. 4) Understanding health and safety issues. B. Guide consumer towards formal Action Plan.



Component	Activity
4. Develop consumer commitment to take action.	A. Consumer Writes down three action items they are willing to try., B. If Action Plan was developed in a previous– session, review plan and discuss workability.
5. Process evaluation.	A. Educator asks consumer if there are any questions. B. Consumer fills out an energy session report card.
6. Reinforce the commitment.	A. Follow-up contact is made once a month beginning about six months after the training session. By then the consumer will have received about six months of utility bills. 1) It may be easier for the consumer to contact the agency. 2) Allow consumer to call collect if long distance. 3) Agency documents how contact w as made. B. Consumers who successfully complete program are awarded certificate.
7. Program Evaluation	A. Program reporting includes a number of home visits, broken out by fuel type and/or supplier; average length of time per visit, results of report cards, types of special needs of consumers, consumers, perception of program, agency perception of program, average office time spent by educator per consumer. B. Agencies will report on most common action items consumers choose, area of need, referrals, and consumers not willing to participate. C. At the end of program, or at a time agreed to by agency and funding source, agency will discuss outcome and program perception with funding source.

PROPOSAL DEVELOPMENT AND REVIEW

PROPOSAL DEVELOPMENT

Agencies should be required to develop a proposal that outlines how they will deliver the minimum standards. Each point needs to be addressed in detail. Agencies that propose to go beyond the minimum standards need to provide specific-details and projected costs. Agencies should be able to project the amount of energy savings per household for first year and three years after education.

PROPOSAL REVIEW

The funding source should review proposals to identify qualifications of agency and staff; prior experience of staff designated to deliver education; specific program goals; degree to which minimum standards are addressed; number of consumers to be served; feasibility and quality of additional education; cost of additional education; and overall content of proposal.

CONTRACTING EDUCATION SERVICES

The funding source should enter into a contract with the agency for specific consumer energy-efficiency education as proposed by agency. Additional costs should be negotiated. It is important to remember that the higher the cost of education, the more difficult it is to prove cost effectiveness.

PROGRAM MONITORING

The funding source should monitor the agency for compliance and have the capability of withholding funding when, non-compliance is discovered. The funding source should also identify training opportunities where agency staff can receive additional or ongoing training.

PROGRAM ENHANCEMENTS

There are many ways to enhance your education program beyond the minimum standards. These enhancements are suggested here as an aid for those who would like to do more to increase the potential for success of the consumer.

The enhancements fall mainly in the areas of developing consumer commitment to take action, develop an action plan, process evaluation, and reinforcing the commitment. Educators are encouraged to go beyond the minimum standards in the delivery of the program.

DEVELOPING CONSUMER COMMITMENT TO TAKE ACTION!
DEVELOPMENT ACTION PLAN: ENHANCEMENTS

Some agencies use an educational agreement (see Figure II-2) as a method of establishing the consumer's involvement in the education process. When the agreement is used, the consumer signs it as a public commitment. Studies (R. Katzev & T. Johnson 1987) have shown that when consumers make a small commitment, such as signing the agreement, they are more likely to make additional commitments.

The simple act of signing an agreement or the action plan may increase the likelihood of the consumer following through with the commitment. Likewise, when the consumer formulates and writes down his or her own action items, success will be greater than for those who are handed a list of potential action items and asked to check some off.

The use of surveys, pre/post-tests, and other methods of assessing consumer energy needs can save time and help the educator focus on the consumer's. greatest needs. Such tools assume a degree of literacy that may not exist in a particular consumer. When this method is used, be aware of consumers who might experience difficulty filling them out and provide assistance as needed.

Always be sensitive to the consumer's attitudes about reading, writing, and signing their name to anything. Some people do not like to sign any documents, and a rigid attitude on the part of the educator may undermine future educational opportunities.

PROCESS EVALUATION: ENHANCEMENTS

The best way for the educator, educating agency, and funding source to get feedback on how well the education is reaching the consumer is the, Education Session Report Card (see Figure II-3). The report card allow the consumer to check off those topics that were covered during the session and make comments.

Another method for obtaining information on how well the education is being received is to contact the consumer after the session and ask-them what they thought of it. This type of contact with the consumer will also serve as reinforcement. The State of Alaska uses a weatherization survey questionnaire that is sent to everyone who receives weatherization. The questionnaire helps the state reinforce the education, track the effectiveness of the program, consumer satisfaction with contractors, and is a good customer relations tool.

Figure II-3

REINFORCE THE COMMITMENT: ENHANCEMENTS

Once the education has been delivered, it begins to decay. This is not to say that the consumer will forget everything they learned over time, but the more time that goes by, the more one forgets-it's only natural. The best way to slow this process is to provide some sort of reinforcement over time.

All education needs to be reinforced. The degree of reinforcement can vary widely. Suggesting that the consumer keep the action plan where they and other household members can see it is the easiest. Providing the consumer with a refrigerator magnet may help this process and keep the education on their mind.

Postcards, newsletters, telephone contacts, and public service announcements on the radio, television, and newspaper are all effective ways to remind consumers of their education and action commitments they may have made. The important thing is to provide some type of follow-up. Consumers will react in a positive way if someone takes the time to show they care. While there is a cost for providing reinforcement or follow-up, it is well worth it. The more personalized the contact, the greater the chances for success.

Section III

Delivering Consumer Energy-efficiency Education

INTRODUCTION

Now that you have designed your energy-efficiency education program, received training, and practiced on others in your office, you are ready to start educating consumers about energy. It will be useful to revisit the goals that have been set for the program. In addition, a review of the attainment targets that have been established will also prove useful.

The curriculum that follows is predicated on the program goals found in Figure I-i (page of this document). Likewise, the attainment targets for this curriculum are those found in Figure 1-2 (page 5). As you develop your own variation of a consumer energy-efficiency education program, you may want to modify or create new program goals and attainment targets. The examples used here should be helpful as models for your program.

KNOW YOUR AUDIENCE

It is important that the educator know as much as possible about the consumers they will be working with. Begin by putting together the consumer profile. This will provide the demographics of the household which will be helpful in structuring the education session. In addition, a 12-month printout of the household's energy use should have been secured from the utility and plotted on the usage graph. The responses of the consumer regarding energy use and comfort should also be reviewed.

The educator should have assembled the tools that will be needed to perform the activities associated with the session. Specific handouts, coloring books, and other paperwork will also need to be ready. A few minutes of preparation time can mean the difference between conducting a smooth, successful education session and delivering a half-hearted attempt.

The final preparation step is to contact the consumer to make sure they are home or remember the workshop schedule. This can be done with a simple phone call, just to remind the consumer that you will be there at a specific time, and to ensure that they are ready. If the consumer has a message phone, be sure to call at least a day in advance to allow the consumer time to get the message. If no phone is available, a written notice should be sent. Allow plenty of time for the mail to be delivered. Once contact has been made, you should be ready to go.

AT THE DOOR

It is important that the educator introduce himself or herself. Identify who you are and who you represent. Always ask for the person whom you previously contacted or for the person who signed the letters or the application. It helps to wear an agency name tag - and a name tag with your picture would be even better. Allow everyone to introduce themselves and make a friendly comment to break the ice and start people talking. Friendly comments don't have to be related to energy or conservation.

Remember; the door to a person's home is their last line of defense. How you look and present yourself will determine whether they let you in. Once inside, the consumer's comfort level is another factor that can affect how well they absorb the information you present. If you sense that the consumer feels threatened in any way, talk about it. Ask if there is a better time to stop by, or if the consumer would prefer someone else to do the education.

As an educator you may walk into a situation where the consumer is experiencing a personal crisis. This could be anything from a disconnect notice to a family problem. Often the consumer will not be in a receptive mood if their mind is preoccupied with a crisis. Try to assess the situation, isolate the crisis, and deal with it. If the crisis is beyond your scope of expertise, ask the consumer if they would like you to refer them to someone who can help. You may have to reschedule the education session.

Most people are willing to talk about their problems even to relative strangers. Use your best judgment as to the length of time spent discussing personal problems and in determining if the education session should proceed or be rescheduled.

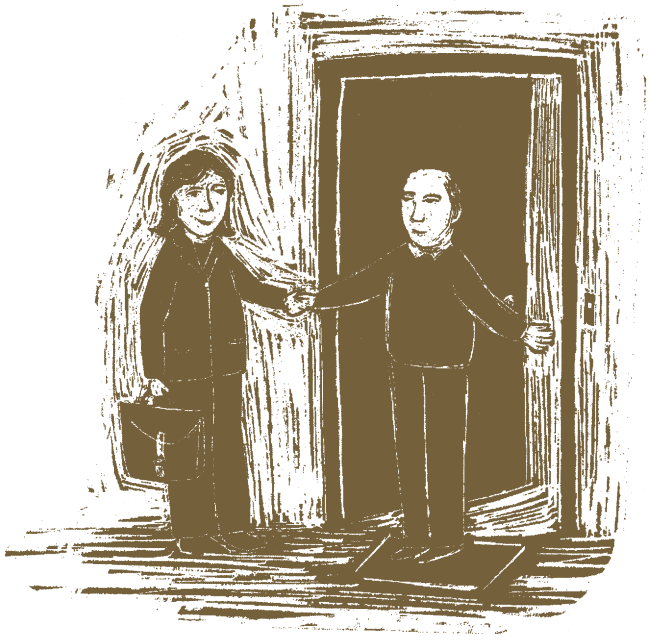


Figure III-1

THE ONE-ON-ONE HOME VISIT

Step I Introduction

(Step 1 should last about 10 minutes)

In a home visit, ask if it would be okay to sit at a table. This will help when you have to write and should be comfortable for the consumer. Some consumers will automatically move you into the living room which, in most homes, is the family showcase. If you are comfortable there, go with it if not, comment on what you see, then ask if you can sit at a table for writing.

Explain the goals of the program, how long the session will take, and what will occur in the session. It is important from the start that the consumer understands that they will be asked to be actively involved in the education process.

EDUCATION AGREEMENT

The educator needs to have both the consumer profile and the structural profile on hand at the session. Explain the education agreement (Figure lll-i), provide the consumer an opportunity to ask questions, and have the consumer sign the agreement after all questions have been addressed. If there are blanks in the consumer profile, now is a good time to fill them in.

CONSUMER'S ENERGY USE PERCEPTION

If the consumer was asked to respond to the questions of energy use and comfort during intake, bring out the two statements they made and use their response to begin the discussion. Begin by saying, "in the statements you made when you applied for the program, you said..." Ask the consumer to explain the statements.

If the consumer: has not responded to the two questions, ask them to do so now and record the response. Have them tell you how they use energy: type of heat/cooling, water heat, cooking, food storage, and entertainment. Ask about the house and how well it stays cool in the summer and warm in the winter. Ask when they start heating and when they stop. Do the same for cooling if applicable. Take notes while the consumer talks.

HOW ENERGY IS USED

Use the first two pages in the Guidebook (see Figure III-2) to explain the consumer's role in energy-efficiency. Review the four key elements to energy efficiency:

1. How we use energy in our daily lives, (energy-efficiency/utility bill understanding);
2. How well our heating and cooling systems work;
3. How well our home holds heat in the winter and stays cool in the summer (comfort);
4. Health and safety.

ESTABLISHING GOALS

Ask the consumer if they have any personal goals they would like to set regarding their energy usage. You may have to guide the consumer in this discussion. Use examples of goals that other people have set for themselves (see examples of personal goals in Figure III-3), and ask the consumer if they would like to adopt any of these goals. Explain that goals are important in measuring how they are doing, they provide a target. Goals should be as personal as possible in order for the consumer to- find meaning and ownership in them. If the example goals are used, ask the consumer to put them into their own words.

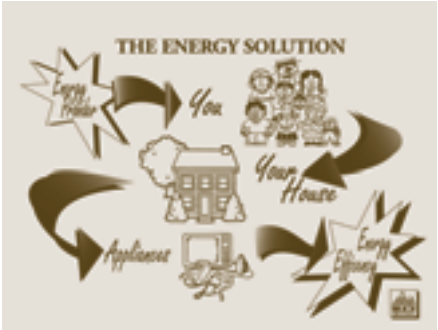
Specific energy-usage goals should be discussed after the walk-through is completed so that the consumer has current usage information on which to base their goals.

Step 2 - Energy Walk-Through

(Step 2 'Will take about 20 minutes) .

*** Always carry a flashlight, screwdriver, thermometer, and rap.**

Ask the consumer to show you their home, room by room. Of course, they will need to know, in advance, that you plan to do a walk-through. Always use the walk-through as an opportunity to point out things they can do to use energy more efficiently. Ask about drafts, cold spots, and appliances. Have them show you the coldest places in the house. Ask the consumer what they think could be done to improve these areas, and have them explain how often they use various appliances and how they are used.



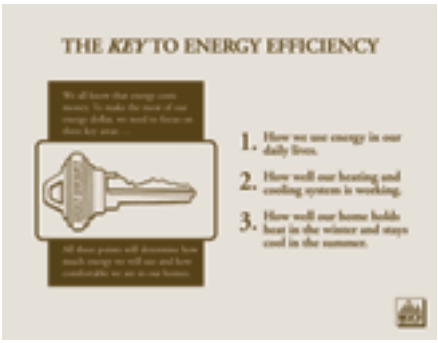


Figure III-2

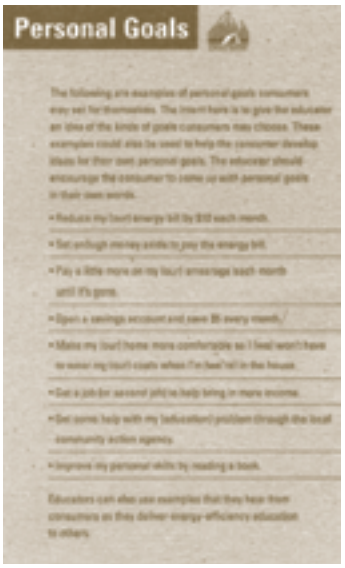


Figure III-3

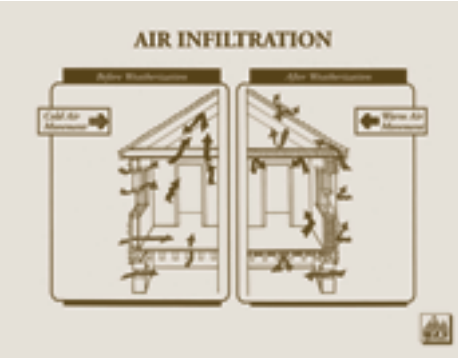


Figure III-4

Using page three of the Guidebook (see Figure III-4), explain how air leaks in and out of the house. Allow the consumer to ask questions. If you have access to a blower door and know how to operate it, use it to help illustrate your point. It will make a big impact on the consumer if they are allowed to operate the fan and feel the air streaming through cracks and holes of the house (the blower door needs to be set on depressurize to feel the air). If the consumer has identified a place in their home that is particularly cold and drafty, have them stand there while the blower door is operating. Explain how the air, leaks can or will be fixed.

If you don't have a blower door, ask the weatherization auditor to allow the consumer to feel for air leaks when the auditor or contractor does the test. If this is not possible, have the consumer show you the cold places in their home and look for obvious reasons for the cold draft Once located, discuss what is needed to stop the air leak.

For additional information on walk-throughs see "Providing Education During the Weatherization Audit."

BEGIN THE ENERGY WALK-THROUGH

Be sure to see how the home is heated (furnace or other) and the location of the water heater. Never assume how it is heated based on the style or type of home, and ask if there are any other types of heating systems. Don't overreact if the consumer says they use their oven or some other type of inappropriate heating system. Remember, you are a facilitator; help the consumer explore their options.

ACKNOWLEDGE THE ACTIONS THE CONSUMER HAS TAKEN

If the consumer is already doing some kind of energy conservation measure, tell them it's good, acknowledge the fact, praise them for their efforts. If their efforts are misguided, tactfully point out measures that will help. Never criticize the measures the consumer has done, even if they are wrong. The fact that the consumer has tried something on their own indicates that they are motivated to improve their situation. Use things the consumer has already done to build upon in a positive way to do other, more useful measures.

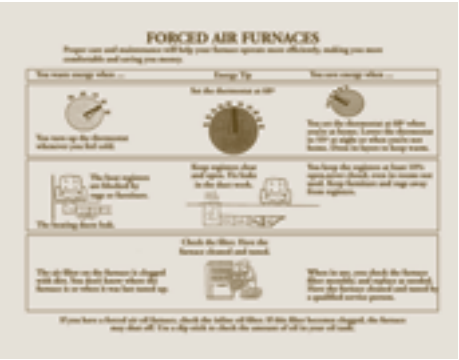


Figure III-5

Identify and make a list of the appliances (by type and energy) and lights (by total wattage) in each room. Look for heat registers, baseboards, space heaters, and other heating sources and discuss how furniture is arranged in relation to them in each room. Remember that cold air returns can not be blocked or closed if the furnace is to operate efficiently. (See Figure III-5.)

HOT WATER USE

Check all faucets for leaks, have the consumer measure the hot water temperature (temperature may vary with distance from the water heater), and record the findings. Talk about showers as opposed to baths as an energy-saving action. Look for opportunities to install aerators and low-flow shower heads. (This step requires a thermometer that shows a range between 80°F-i60°F, as well as aerators, low-flow showerheads, plumbers taper and a wrench.)

Start with the water heater temperature setting (electric water heaters should be no higher than I20°F; gas water heaters should be set at medium low) and adjust, if needed. Check for water heater temperature setting and pipe wrap, and note any deficiency in the existing wrap or heater itself (requires both Phillips and flat head screwdrivers).

WARNING: Never adjust temperature settings on electric water heaters until you turn off the power.

Show the consumer where the temperature settings are located and how to adjust them. If the water heater is set above 120°F, discuss the advantages of a lower setting. If the consumer agrees to a lower setting, have them lower it. This way, if they want to lower it more later, they will know how to do it.

Check the water temperature with a thermometer at the faucet furthest from the water heater. Always ask the consumer if they would like to take the water temperature and have them give you the reading.

FOOD STORAGE

Check refrigerator and freezer gaskets, and inside box temperature (requires a thermometer that shows a range between minus 20°F to plus Note location of refrigerators and freezers in relation to heat sources. (See Figure III-6.)

* **Refrigerator gaskets can be checked visually. A flashlight turned on and paced inside the refrigerator will work to identify leaky gaskets. If you can see light with the door closed, the gasket needs repair. Try adjusting the gasket, or use foam tape to mend broken areas. A new gasket can be very expensive and may not be worth it.**

Some educators routinely dust the refrigerator coils as part of the education. This is not the educator's job, unless the consumer is not physically able to do this for herself or himself. Consumers should be shown and guided, but the educator should never do things consumers could do themselves.

OUTBUILDINGS AND GARAGES

While doing the walk-through, ask about energy uses in outbuildings or uses outside the house such as security lighting. Motion lights that come on whenever something moves within a designated range are a good energy efficient alternative to an outside light that is continuously on. In rural areas,

Figure III-6

ask about water and sump pumps. If the consumer has a garage, ask about power tools, space heaters, and secondary refrigerators/freezers. Often garages and outbuildings are overlooked when the consumer is focusing on things inside their home.

Energy use in outbuildings and garages is often substantial. If these uses are overlooked, it will throw off any attempt to diagnose household energy use, resulting in inflated usage being assigned to the wrong activity.

LOCATING UTILITY METERS

Once outside, identify the location of the electric and or/gas meter, if applicable. Make sure the consumer knows where these meters are located. It is always interesting to look at the utility meter and watch the disk or dial on the meter move around. Ask the consumer to turn something on or off and have them note the change in the speed of the disk.

Step 3 - Energy Use Discussion

(Step 3 will take approximately to minutes)

After the walk-through is completer you will want to discuss what you saw. Go back to the table where you began the session and discuss your observations. The purpose of the walk-through is to identify how the household uses energy, and for the consumers to point out what they feel are their biggest energy problems and the measures they have taken to stop waster improve, comfort, and increase energy-efficiencyr and their ideas on how more energy savings and comfort could be realized.

After the walk-through you should know:

1. How the home is heated and cooled;
2. How water is heated, its temperature, and how hot water is used;
3. The location and condition of refrigerators and freezers;
4. The household lighting requirements;
5. The type, location, and use of other appliances;
6. Where the cold spots and drafts are;
7. What the consumer is doing to improve comfort, reduce waste, and save energy.

CONSUMER'S PERCEPTION OF BIGGEST ENERGY USERS

This is a good time to find out what the consumer thinks are the biggest energy users in their home. If other family members are present, let all of them answer. Ask this question, "What three appliances or other energy users do you think consume the most energy in your home?"

There are several ways to do this. One way would be to hand the consumer(s) a list of household appliances and ask them to circle the three biggest energy users (see Figure III-7). Another method is to take the information you just collected during the walk-through and have the consumer(s) choose the top three energy users from that list.

A third method would be to use the Guidebook page entitled, Average Monthly Appliance Usage (see Figure III-8). Ask the consumer to identify the three biggest users of energy. Be sure to first cover the bar graph so that the consumer cannot see the average kwh's plotted on the page. Don't overlook natural gas appliances when doing this exercise. The educator should be ready to estimate the cost of biggest energy uses.

Have the consumer circle their answers on the Average Monthly Appliance Usage page. Be sure to, use the plastic page covers and the erasable pens when writing in the Guidebook. After the consumer has completed circling the biggest energy users, uncover the bar graph and discuss their choices based on how close they were to identifying the biggest users.

In order to put all of this into perspective, use the graph entitled Home Energy Use (Figure III-9) found in the Guidebook. It clearly shows which activities use the most energy. Discuss with the consumer those areas where the most energy is being used and ways to prevent waste.

* **Many utilities have developed appliance energy consumption guides. It may he helpful to use the local guide for the specific utility area you are working in.**

GUIDING THE CONSUMER TOWARDS EFFICIENCY

Once you have discussed the biggest energy users, ask the consumer for specific ideas that they think will help reduce their energy use. Try to guide the consumer to those uses or activities that use the most energy.

1. Space heating or cooling are, by farm the biggest uses of household energy. The consumer should understand that lowering the thermostat when heating and increasing it when cooling will reduce waste. Use the Guidebook to identify and discuss specific things the consumer can do to improve their heating or cooling efficiency.
2. In most homes, water heating and hot water use are the second largest users of energy. The consumer should understand how they can improve efficiency in their day-to-day hot water use.
3. Refrigeration, followed by lighting, account for the next largest home energy uses. Discuss the kinds of things the consumer can do to reduce waste in these sectors.

* **Always ask the consumer what they think they can do to use energy more efficiently.**

Figure III-7

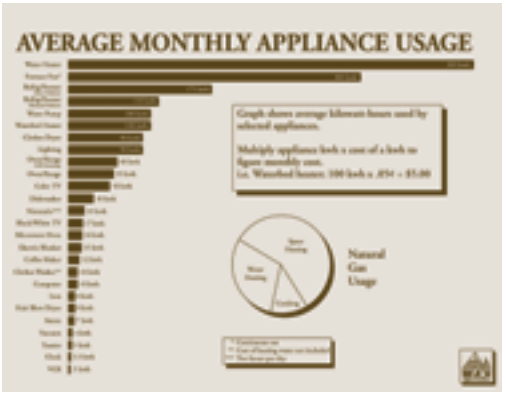


Figure III-8

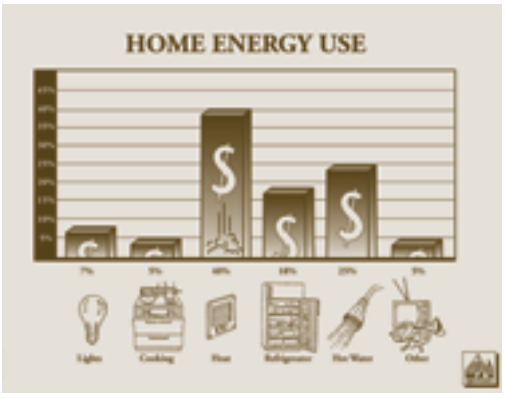


Figure III-9

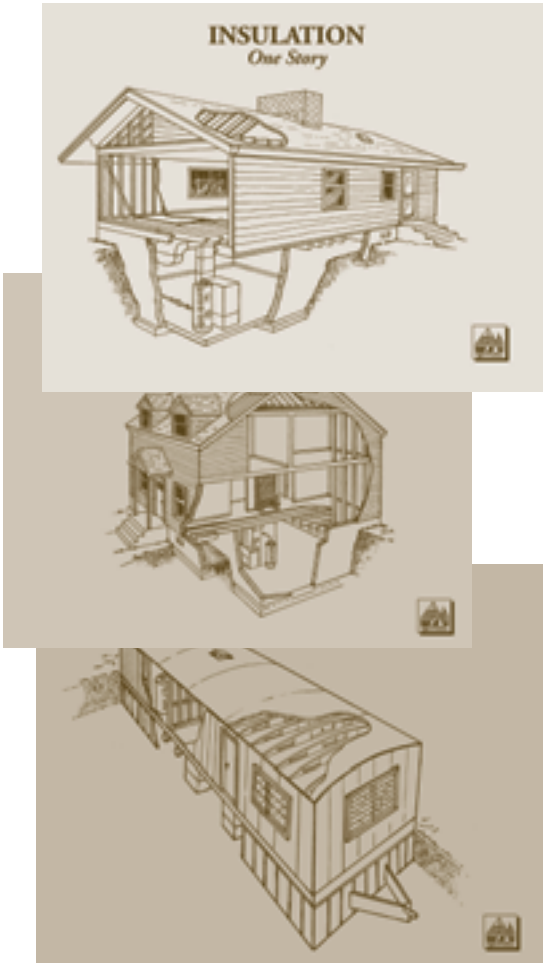


Figure III-10

RESULTS OF THE WALK-THROUGH

During the walk-through, you should have observed the location of heat registers, baseboards, wall heaters, and/or space heaters. A discussion of how furniture is arranged in relation to the heat sources may be appropriate. As with heat registers, be sure that cold air returns are not blocked.

The consumer may focus on reducing the amount of time that the TV is on as an example of saving energy, or turning off lights whenever they leave the room. Acknowledge that doing these things will save energy and support their efforts. Point out, however, that some other steps may have an even greater impact on the consumer's energy bill.

The educator should show the consumer the graph of their usage history that was developed prior to the session. Point out seasonal fluctuations in energy usage. Be ready to discuss what average energy usage is for households of similar size, and how much of the usage is base load.

*** The local utility will be able to provide you with average usage information of residential customers. However, over time you will be able to compile more accurate data on average usage for the population you are working with.**

SETTING ENERGY GOALS

Now is a good time to ask the consumer if they are willing to set an energy use goal for their household. It is important that the educator discuss the consumer's usage history prior to this discussion. Some consumers are below average energy users, and asking them to set an energy savings goal may not be appropriate.

Consumers who are below-average energy users may use more energy after weatherization and education than they did before, simply because they now know how to use energy. Below-average energy use may be an indication of inability to pay energy bills and fear of power shut-off. If this is the case, explore budget payment plans and address comfort.

Be sure to address the major energy users in the home before moving on.. Never discuss energy savings techniques for appliances not found in the consumer's home.

WEATHERIZATION

It may be helpful to discuss zone heating or cooling at this point. The Guidebook pages entitled The Comfort Zone, The One Minute Warm-Up, and Do It Yourself Weatherization will be -helpful in this discussion.

If the home is scheduled for weatherization, or if it has been recently weatherized, use the pages of the Guidebook that show cutaways of homes and talk about insulation (see Figure III-10).

It is important to know as much as possible about the weatherization of the dwelling. If air tightening will be done as part of weatherization, for example, inform the consumer that any self-help measures the consumer installs will be temporary until the weatherization crew can provide a more permanent fix.

The consumer may have some questions regarding weatherization that you can't answer. If this happens, write down the question and have the weatherization manager contact the consumer. Remember, no answer is better than the wrong answer.

ACTION PLAN

Ask the consumer if they are willing to try to take a specific action to improve comfort, reduce waster or save energy. Ask the consumer to suggest three things they can do. After the consumer has agreed upon three action items, have the consumer write them down on the action plan. The action plan will now become the focus of the consumer's energy education.

Check the Guidebook for pages that support the action items that the consumer has chosen. Discuss the relevant Guidebook pages with the consumer and provide copies of those pages as handouts. Always illustrate your comments by using the consumer's home when possible and not just talking about it.

* **You may have to mail copies of specific Guidebook pages or other written information if you don't have copies with you.**

A copy of the action plan should be kept in the consumer profile and referred to during follow-up contacts. The consumer needs to keep the original copy of the action plan.

As time goes by and the consumer reaches their action plan goals, the educator may want to suggest the next logical action items for the consumer to try, or ask the consumer what they would like to try next.

Step - Understanding Energy Use

(Step 4 should take about 15 minutes)

THE UTILITY BILL

Discuss the utility bill with the consumer. Make sure the consumer knows where to find the amount of energy used for that billing period, the amount owed, the time period covered, the total amount owed, and whether or not the meter was read or estimated.

PLOTTING ENERGY USE

Many utilities now show the customers usage on their billing with a graph that covers the current and previous 12 months. If the consumer's utility does not

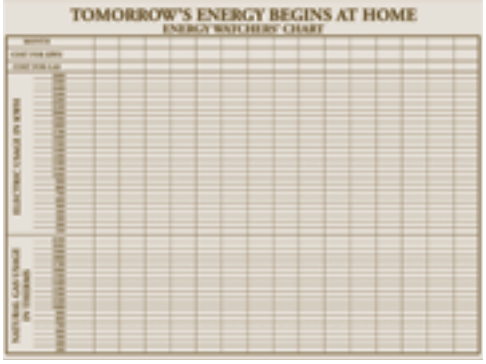


Figure III-11

provide a graph, show them how to plot their usage on the graph found on the Guidebook page entitled Tomorrow's Energy Begins at Home (Figure Ill-11). Discuss the graph and the historic usage information you have already plotted on it, or on the utility's graph.

METER READING

Use the Guidebook page entitled Reading Your Meter to show the consumer how to read their meter. Practice with the blank dials until the consumer is able to record the proper reading. Go to the consumer's meter and have the consumer record the usage. Check the reading to see if it is right.

The consumer may-want to add meter reading to their action plan. This will help them monitor their energy usage. Suggest a time period for the consumer to record their usage; this could be once a day or once a week or any other time. Ask the consumer to watch for changes in usage and try to explain what caused them.

* **Meter- reading should be done at the same time each day. Try to cover consistent blocks of time so that comparisons will be meaningful.**

FOLLOW-UP MEETING CONTACT

Explain that you, or someone from your office, will be calling back every month to find out how much energy the consumer's household used and to check on how the action plan is working. Be sure the consumer knows how to identify usage information either from the utility bill or from reading the meter.

It may be practical to have the consumer call you after they receive their utility bill. This approach is useful if consumers don't have a home phone. The value of actual contact with the consumer, as opposed to sending a postcard, is the ability for the consumer to ask questions. Make sure consumers are not charged for long distance calls. Allow them to call collect or have your agency install a 800 number.

Step - Wrap-up, Review, and What Comes Next

(Step 5 should take approximately 10 minutes)

REVIEW

Now that you have completed the home visit, it is a good idea to review the high points. Begin with a review of the personal goal the consumer has set and the action plan. Make sure that the consumer knows what they have committed to do. Discuss the action items to reinforce the benefit that will be derived. If

you have handouts that will support the action items, discuss them with the consumer and give them a copy. If handouts are not available, mail them to the consumer at a later date. If mailed, check to see that the consumer received them at the first follow-up contact.

WHAT HAPPENS NEXT?

If the house is scheduled for weatherization, explain all the steps of the process and the benefit, that is expected. Likewise if the house was recently weatherized, ask the consumer if they have any questions and explain the process and benefit. Use the Guidebook page that best resembles the consumers home as an aid to discuss weatherization. You may find it necessary to point to actual features on the house to further illustrate your point. You may also want to use the Guidebook page entitled Living in a Weatherized Home to help the consumer understand their role in weatherization.

REFERRALS

If you have noticed anything that the consumer needs in the way of other services offered by your agency, now is a good time to advise the consumer of them. It is also helpful to ask the consumer if they would be interested in any of the other services your agency has to offer. Show the consumer a list of services (see Figure lII-12). Ask if they would like you to refer them, to any of the services listed. If the consumer shows any interest, but does not want to commit, leave the list with them. The list should include appropriate phone numbers and contact persons.

SESSION REPORT CARD

Have the consumer fill out the session report card. Explain that it will help improve the program and provides a record of what was covered.

FOLLOW-UP

Set a time when the consumer can be reached for follow-up contact. Explain what will be covered in the follow-up and who will be contacting them, or how they can contact you.

CLOSURE

Ask the consumer if they have any questions. Give the consumer your phone number so they can contact you if needed. Thank the consumer for their time and reassure them that their Action Plan will help them reach their goals. ,

*** It may be helpful to provide the consumer with a folder of some type to keep any papers that you give them during the education session.**

Figure III-12

THE GROUP WORKSHOP

* **When setting up a group workshop, try to match up consumers with similar backgrounds. Their backgrounds might include housing type, family structure, or heating type, but there should be some common element shared by all.**

LOGISTICS

The educator needs to have everything ready in advance of the group workshop. All props, handouts, forms, and giveaways need to be staged for easy access. The educator should know-as much as possible about the group he/she will be working with. Depending on the size of the group, use an overhead projector or very large enlargements of forms or information you are discussing. If enlargements are not available, make sure everyone has handouts about what you are talking about.

Step I - Introduction

(Step I should last about 10 minutes)

Unlike a home visit where the consumer is in control (they let you in, lead you to a chair, show you their home), in a group workshop you must take control from the start.

Welcome people as they arrive and show them to their seats. If refreshments are available, point this out to them. Do not allow anyone to wander around confused, not knowing where to go or what to do - engage in conversation. If you are providing child care, be sure to show both the child and the parent where it is located.

In a group session, have consumers sit at a table or in a circle; it helps communications when people face each other. If you require everyone to write, be sure to provide a hard surface such as a clipboard if a table is not available. For large groups (more than 10) tables should be used. Round tables are best with five to eight people per table.

BEGINNING THE WORKSHOP

Start with a formal welcome, identify who you are, who is sponsoring the session, and where the bathrooms are located. Ask everyone to say who they are (you may find it helpful if everyone also tells a little about themselves, such as how many in their household, etc.).

Explain the goals of the program, how long the workshop will take, and the sorts of things that you will do in the workshop. Also explain what you hope people will gain by attending the workshop.

EDUCATION AGREEMENT

The educator needs to have the consumer profiles on hand at the session. Explain the Education Agreement (Figure III-13), provide the consumers an opportunity to ask questions, and have them sign the agreement after all questions have been addressed. If there are blanks in the consumer profile, now is a good time to fill them in.

PRE-TEST

A good way to start the discussion on energy use is to have all workshop participants take an energy pre-test. The pre-test should include questions on thermostat settings, water temperature heating and cooling and other energy topics. Design your pre-test to correspond to the information you will be discussing. After the workshop, have participants complete a post-test, which is the same test. Compare the answers from the pre-test with the post-test. All questions should be true/false or multiple choice. Asking too many questions will be counter productive.

CONSUMER'S PERCEPTION OF ENERGY USE

Bring out the two statements the consumers made during intake that relate to how the household uses energy and how well the house stays cool or warm depending on the season. Ask the consumers to tell how they use energy, type of heating/cooling, water heating, cooking, food storage, and entertainment. Go around the table to be sure everyone has a chance to participate. Don't let anyone sit quietly.

Ask about the house and how well it stays cool in the summer and warm in the winter. Ask what month they start heating/cooling and when they stop. Ask what temperature they like to keep their house, day and night. Take notes while the consumers talk.

Use the first two pages in the *Consumer Energy-Efficiency Education Guide* book to explain the consumer's role in energy-efficiency. Review the three key elements to energy-efficiency:

1. How we use energy in our daily lives.
2. How well our heating and cooling systems are working.
3. How well our home holds heat in the winter and stays cool in the summer.

The educator should discuss the relationship between the occupants and all other factors related to energy. Be sure to explain that without the cooperation and commitment of the household/consumer, none of the information presented will work; it is a partnership.

SETTING PERSONAL GOALS

Ask the consumers if they have any personal goals they would like to set regarding their energy usage. You may have to guide the consumers in this discussion. Use examples (Figure III-14) of goals that other people have set

Figure III-13

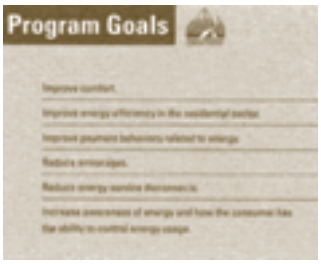


Figure III-14

for themselves. Ask the consumers if they would like to-adopt any of these goals. Explain that goals are important in measuring how they are doing and providing a target. Goals should be as personal as possible for the consumers to find meaning and ownership in them. If the example goals are used, ask the consumers to put them into their own words. Have the consumers write down a goal or two they feel comfortable with. Ask them how they plan to accomplish these goals and overcome barriers.

Specific energy usage goals should be discussed after the consumer has as much information on how they are currently using energy.


AIR INFILTRATION

Figure III-15

Step 2 - Energy Use Discussion

(Step 2 will take about 15 minutes)

AIR INFILTRATION

Use the page of the Guidebook (Figure III-15) that addresses air infiltration as an overhead or as an enlarged wall chart to help explain how air moves in and out of the house. The educator may find the text on air infiltration helpful in this discussion.

Begin the discussion of air infiltration by asking where the cold or drafty places are in people's homes. Try to identify the source of the draft and allow others, to postulate, but exercise control of the group. Make some suggestions as to how to stop or reduce the draft and ask others if they have any ideas. Always acknowledge good ideas. Be sure the participants understand the principles of air leakage and how and why to stop it.

There are three pages in the Guidebook that will be helpful in this discussion, The Comfort Zone, One Minute Warmup, and Self-Help Weatherization. The educator should have copies of these pages available as handouts for those who want them.


Appliance Checklist

Figure III-16

APPLIANCES AND ENERGY USE

Discuss energy use in the home, starting by discussing the types, of appliances and lighting uses in each room. Use the Checklist (Figure III-16) to help identify appliances or write down the uses on a large piece of paper as people call them out. Be sure to talk about every room; ask if anyone has a room or appliance that was not mentioned. Ask if anyone has an outbuilding or garage where energy is used. Ask what kinds of energy uses are found there. For this discussion, define appliances as anything that uses energy including electricity, natural gas, oil, propane, wood, solar, and others.

Use the bar graphs entitled Home Energy Use and Average Monthly Appliance Usage in the Guidebook to clarify your discussion. Show where each of the uses identified above is located on the usage graph.

An appliance usage chart from the local utility is also helpful. Make sure everyone at the workshop is served by the utility whose chart you are using, or that the cost per kwh/therm is the same.

WATER HEATING

Ask the group what kind of water heater they have. Use the Guidebook pages entitled Water Heaters and Water Heater Wraps (Figure III-17) to aid in the identification of the types and various parts. Discuss temperature setting and 'hot water, use. Use the Guidebook page entitled Washing (Figure lll-18) to aid in the discussion. Ask participants for other ideas on how to reduce hot water use.

Along with the discussion on hot water use, talk about aerators and low-flow showerheads. If possible, and available, aerators and low-flow showerheads could be given out, with instructions on how to install them. Use the Guidebook page entitled Water Leaks (Figure III-19) to help illustrate the amount of water wasted. Another way to illustrate water usage is with empty plastic gallon milk jugs. If a faucet leaked 30 drops every minute, it would take six days and six hours to fill ten milk jugs, or waste ten gallons of water.

SPACE HEATING

Next discuss heating systems. Use the Guidebook page entitled Heating Systems (Figure III-20) to help identify the different heating systems consumers are using. Discuss things that can be done to make the heating system more efficient. The Guidebook page entitled Forced A' Furnaces (Figure III-21) may be helpful in this discussion.

OTHER

In a group workshop, allow for lively discussion and interaction, seeking, to bring out new ideas, but also guide the discussion and keep it on track. It will be helpful to have all materials ready before the workshop begins. When things start to drag, take a 10-minute break. Allowing workshop participants to discuss topics in small groups can be helpful. Hands-on examination of energy-efficiency devices is also a good way to maintain interest.

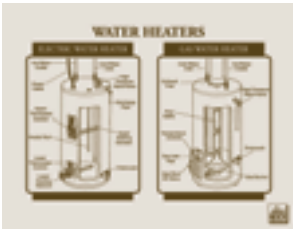


Figure III-17

Figure III-18

Figure III-19

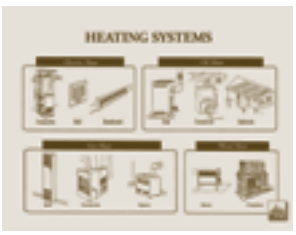


Figure III-20

Figure III-21

Step 3.- Energy Use Discussion and Video

(Step 3 will take approximately 20 minutes with video)

VIDEOS

Videos used to supplement the discussion on energy use can be an excellent tool. Videos used in a workshop setting offer an added dimension to the discussion, because more ideas are usually generated by a group than by a single person.

The U.S. Department of Energy has two videos that would be useful in a workshop setting. The Weatherization Team and You and The Weather or Not Game Show provide good information on how the weatherization program works and tips on consumer energy-efficiency, respectively. Another video that would fit very well into a discussion on home energy use is 10 Quick Ways to Save Energy, developed by the Energy Office of the City of Portland, Oregon. Many utilities have also developed videos related to various aspects of energy conservation; check with your local utility(s) for a list of videos on energy-efficiency.

After viewing the video, ask those present to tell you about what most impressed them Discuss these things and ask how they would apply this information to their homes.

To order a copy of the 10 Quick Ways to Save Energy video, contact:

Oregon State University
Extension Service, Extension Stock Room
Ballard Extension Hall
Corvallis, Oregon 97331
(503) 731-3004

To order a copy of The Weatherization Team and You, or The Weather or Not Game Show, contact:

Ohio Department of Development/Weatherization
77 South High Street
Columbus, Ohio 43266
(614) 466-054

Figure III-22

ACTION PLAN

Discuss the idea of an action plan, and ask if they are willing to commit to specific action items that will result in saving energy, saving money, and improving comfort. Discuss the kinds of actions that could be included in an action plan. Have the consumers tell which items they chose for their action plan.

Always have the consumer write down what they want to include in their action plan. Later, they can transfer these items to the action plan form (Figure III-22). Use appropriate pages from the Guidebook to support the action items selected

by workshop participants. It may be necessary to mail copies of appropriate Guidebook pages if copies are not available at the time.

RECORDING USAGE AND THE UTILITY BILL

Meter reading is an easy way for the consumer to monitor their energy use. Use the Guidebook illustration entitled Reading Your Meter (Figure III-23) to instruct the consumers on how to read their meters. The Guidebook also has a page entitled Tomorrow's Energy Begins At Home (Figure III-24). Copies of this page should be given to consumers, along with instructions in how to plot their energy use. As an example, you may want to plot the historical usage information contained in their consumer profile. It is useful to plot historical usage information before the workshop, then hand it out during this discussion.

Figure III-23

In addition to meter reading, a close inspection of the utility bill to make sure that everyone knows how to read it is recommended. Point out where to find the amount of energy used, current amount owed, cost per kwh/therm service period, and other relevant information. Some utilities estimate the usage every other month. This is indicated on the billing. Consumers should be able to determine if the meter was read or if the usage was estimated. Check with the local utility to see if a representative from the customer service department would be willing to make this presentation at the workshop. Always make your request well in advance of the workshop and be ready to stand in if there is a cancellation.

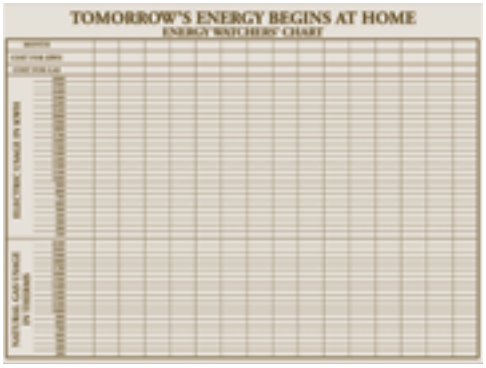


Figure III-24

* **When discussing utility bills, always be sure to use the billings from all utilities serving the attendees. It would be very helpful if everyone were asked to bring a copy of their most recent utility bill with them.**

Ask the participants if they have any questions. Take the time to fully discuss each question. If you don't know the answer, write the question down and look it up when you are back at the office. Call or send a response to the consumer. It is good to respond quickly; if questions never get answered, you could lose credibility. It may be necessary to have someone from the utility or from another program contact the consumer if they are more knowledgeable about specific issues. Encourage workshop participants to express their opinions and ideas.

If you find yourself in disagreement with a consumer over a technique or advice, try to support your point with documentation. If that doesn't work, suggest that people experiment and find out for themselves which method works better for them. Remember, there are many ways to save energy and many more ways to waste it.

Figure III-25

Step 4 - Closure

(Step 4 should take about 10-15 minutes)

GET IT IN WRITING

Now is the time to distribute the action plan forms. They should be in duplicate so that the consumer can keep a copy and the other copy can go into the consumer profile. Consumers should now be ready to write their three action items that will make up their action plan. Offer individual help if needed.

Remember to suggest that action items be things that consumers are able to do and also things that will significantly improve comfort or save energy.

QUESTIONS

Be sure to offer one last chance for anyone to ask questions. If you can't answer the question, let the person know that you will find the answer and get back to them. Do this as soon as possible or it may never get done.

SESSION REPORT CARD

After the consumers have completed-their action plans, hand out the session report card (Figure III-25). The review will provide you with information on how well you covered the material and additional information consumers may, wish to share with you. Report cards will give you information that will help you improve the workshop. It also may be helpful to go over the questions while the consumers are filling them out. Workshop participants need to know that the session report card is an important part of the program. Encourage everyone to fill out the session report card and to make any comments they feel appropriate.

POST-TEST

It may be necessary to collect additional information. This can be done by using a post-test. The post-test may be identical to a pre-test that the consumers took at the beginning of the workshop, or while they were in the waiting room prior to their energy assistance or weatherization application appointment. The information provided in the post-test when compared-to the pretest will help improve your consumer education program. Be sure to clearly mark post-test on the form or it may become confused with the pre-test.

*** Always ask participants if they thought the workshop was helpful.**

REFERRALS

After the post-testis completed, offer a list of program referrals offered by your community agencies. Allow some time to discuss the referral list. Support any participant who wants more information by offering help in making contact.

FOLLOW-UP

If you are going to provide follow-up, explain how it will happen and set individual times to do it. Be sure to note when people receive their utility bill, as you will not want to contact them until after they have received a billing.

THANK EVERYONE

Be sure to thank everyone for coming and encourage them to follow through with their action plans. If you have any free gifts or materials, now would be a good time to hand them out.

PAPERWORK

After the workshop is complete, organize all paperwork into the proper file. This may include pre- and post-tests, action plans, session report cards, personal goals, consumer profiles, referrals, and other paperwork the workshop participants have completed. As soon as possible after the workshop make some personal notes about how you feel the workshop went and how to improve it.

IN-OFFICE EDUCATION: THE ANDY WARHOL APPROACH

INTRODUCTION

In-office education is gaining popularity. Often this sort of education is provided in conjunction with an energy assistance appointment. The premise behind the Andy Warhol in-office education approach is that everyone can that the average consumer can gain from fifteen minutes of education is equal to or greater than the cost of providing the education.

At first it would seem that fifteen minutes is too short a time to provide meaningful education. However, it is assumed that the vast majority of energy assistance recipients know little about the energy they are using. Therefore, a short introductory course in home energy use can be very beneficial.

This type of education is designed to be offered one-on-one. Consumers who show a motivated interest should be offered the opportunity to attend additional workshops or have home visits provided by the agency where a more in-depth discussion of energy can take place.

"...One day everybody in the world will be famous for fifteen minutes..."

Andy Warhol, Pittsburg 1969

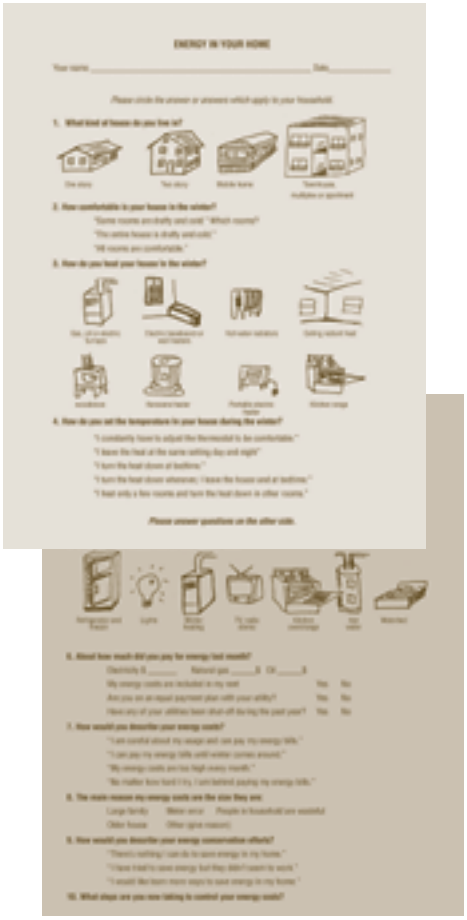


Figure III-26

TRAINING

In the "intake" approach, the intake worker is the educator, and since they are experienced in working with people in a one-on-one situation, they are ideal for this type of education. Since the amount of information is limited and not very technical, they should be good educators. Prior to delivering education to consumers, intake workers must be trained; a good way to train is through role reversal, where they go through the process as though they were the consumer. Allow them to practice on one another until they feel comfortable with the process and have it down to fifteen minutes, of course additional training in the basics of heat loss, comfort, energy efficiency, and utility billings may also be helpful. Every intake worker should try out all energy tips in their own home before suggesting consumers try them. Once trained, they become an intake educator.

KEY STEPS TO THE INTAKE EDUCATION APPROACH

- Consumer completes energy survey.
- Educator explains program, reports survey.
- Educator discusses utility billing and energy end-use, space heating, water heating and use, major appliances.
- Educator points out comfort techniques; free materials optional.
- Consumer asked to commit to action. Educator closes session, offers referrals, notifies consumer of follow-up.

Request that consumers bring a copy of their utility bill with them and, if possible, a 12-month usage printout. The usage printout is available from the utility. A request for the printout should be made well in advance of the education session and should be made by the consumer in person or in writing.

Step I - Waiting Room Survey

(Step should last no more than five (5) minutes.)

The survey (Figure III-26 and Appendix I) is designed to gather information about the consumer's energy usage, comfort, and knowledge. To do this, the survey needs to identify the consumer's housing type, heat type and fuel, backup heat type, location and condition of water heater, general structural condition of the house, and finally the consumer's level of understanding about how they use' energy.

The survey can also be used as a pre-test to compare with the post-test to evaluate the program. The survey should be as short as possible and easy to understand or consumers will not be able to complete them in the Waiting room. Filling out the survey in the presence of the educator will take time away from the education.

VIDEO IN THE WAITING ROOM

The showing of a video while consumers are waiting for their appointment is a useful educational tool. The best video to use is one that shows, short, concise energy tips that consumers can use. These short tips work best because consumers may only see one or two of them before they are called for their appointment. If the video must be seen in its entirety, the consumer will not receive the full benefit when they have to leave for their appointment.

Step 2 - Focusing the Education on the Consumer's Needs

Step 2 should take 2 = 3 minutes.

The intake worker needs to explain the process to the consumer including: intake interview, education, and follow-up. Try to put the consumer at ease. Become acquainted with their situation. After the intake worker has completed the application process for energy assistance they begin the education by reporting the completed survey with the consumer. The intake worker should ask the consumer two questions: "How do you use energy?" and "is your home comfortable?" Allow the consumer to answer both questions and take notes as they talk. The educator may have to probe for a clear response. Try to get the consumer to be specific. Yes and no responses will not help.

USING THE UTILITY BILL

Starting with the consumer's energy bill, the intake/educator points out key information on the bill: period covered, amount used, cost of energy used, service charge, total amount owed, date to be paid, and where the energy assistance payment will show up on the billing. The educator should ask the consumer, "Are your energy bills affordable?"

MAJOR ENERGY USERS

Next, the intake/educator uses a graph (Figure III-27) showing how energy is used in the home (the Guidebook page entitled Home Energy Use would be helpful) pointing out the largest use if, for example, the consumer believes that lights are a major energy cost, the educator should refer to the page titled Average Appliance Usage or other such chart to support their answer.

The intake worker should identify the type of heating system the consumer is using. This can be done by using the heating system flow chart. Once the heating system has been identified, the intake worker should focus on the discussion points contained on the flow chart.

Figure III-27

HOT WATER USE

Next, the intake/educator focuses on hot water user pointing out things the consumer can do to reduce waste. Always allow the consumer time to respond to things they are already doing. Ask the consumer what temperature their water heater is set-at. If they don't know, show them how to find out by using a thermometer or checking the setting on the water heater.

OTHER HOME ENERGY USERS

Finally, the intake/educator discusses the next highest home energy users. In most homes this will be the refrigerator/freezer (the Guidebook has information that will be helpful in this discussion). Keep in mind that there are many kinds of refrigerators and freezers of various age and size in use. Ask the consumer questions to help focus this discussion.

The consumer should be aware of how the other appliances in their home use energy (see Figure III-28). Many utilities provide information on specific appliance use. Check with utilities in your area to see if such brochures are available to give consumers. The Guidebook also has a page titled Average Monthly Appliance Usage that will make a good handout when copied.

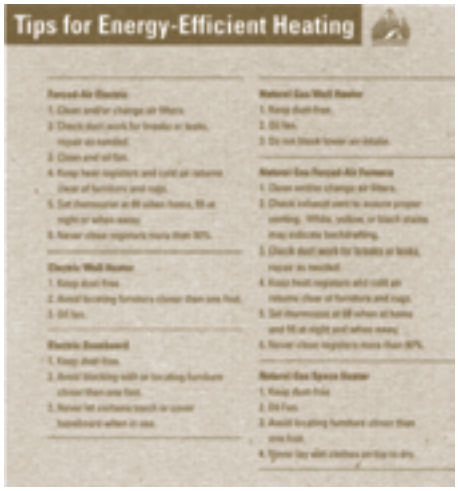


Figure III-28

Step 3 - Increasing Comfort

(Step 3 should take about 5 - 7 minutes.)

The intake/educator should have product samples and props available for the consumer to see and practice with for step 3 to be meaningful. These would include rope caulk, window plastic, door snakes, V-strip, weather stripping, and a small window.

HOW TO IMPROVE COMFORT

Start with a discussion of how the home holds heat or stays cool. The Guidebook pages entitled Comfort Zone, Air Infiltration, and One-Minute Warmup, will be helpful in this discussion. Discuss the things the consumer can do and is doing to maintain their comfort levels. Be sure to suggest alternative materials-the consumer can use to improve comfort that don't need to be purchased. When demonstrating store-bought materials, be sure to let the consumer know their price.

The consumer should understand that lowering the house temperature will save energy but it will also be cooler. The educator should discuss ways the consumer can feel comfortable while using less energy. This discussion should focus on dressing for comfort; layering loose fitting clothing will keep you warm.

GIVEAWAYS/SELF-HELP MATERIALS

The consumer should come away with an understanding of how to improve their comfort and the belief that they can do something. Many utilities offer conservation materials to their customers free of charge. These include, aerators, low-flow shower heads, thermometers, compact fluorescent light bulbs, and more. Find out if your local utilities have such programs and ask if you can help distribute these materials to their customers who you serve. If these materials are, available, be sure to demonstrate how to use them.

Step 4- Commitment to Action

(Step 4, should take about 2 minutes.)

Now that the consumer has been exposed to consumer energy-efficiency education, ask them to commit to an action plan. The action plan consists of a minimum of three action items that are specific things the consumer can and will do to improve their comfort and energy-efficiency. Have the consumer write their action plan down and sign it. Keep a copy of the action plan and suggest that the consumer locate their copy on the refrigerator or some place where they will see it. Ask the consumer to keep an eye on their utility bill as they try out their action plan.

MOTIVATING OTHERS

The consumer may have to motivate others in their household to participate. If this is the case, ask the consumer to allow each household member to pick one task. By allowing them to chooser they will be more motivated than if they are told what to do. The consumer needs to fully understand each action item so that they can explain the reason behind the task to family members.

Step 5 - Closure

(Step 5, should take about 2 minutes.)

The intake worker/educator should offer a quick recap of the information that was covered, and reassure the consumer that if they try some of these techniques, along with their action plan, they will help reduce their energy costs and improve comfort.

RESOURCE REFERRALS

Advise the consumer that there are other services available to them, and offer a list of resources and contacts.

GIVEAWAYS

If your program has materials to give away, now is a good time to do it. Be sure to keep a record in the consumer file of all materials given to that consumer. Inform the consumer that, at some later date, someone may contact them to see if the materials were installed.

Figure III-28

FOLLOW-UP CONTACT

Inform the consumer that a follow-up contact may be made to find out how well the education is working. Ask when the best time to contact the consumer ism and record this information.

FINAL QUESTIONS AND POST-TEST

Ask the consumer if they have any final questions. Have the consumer fill out a session report card (Figure III-29) and a post-test. After this is complete, thank the consumers for their time.

Step 6 Reporting and Coordination

After the consumer has completed the in-office education session, the educator needs to organize the consumer file. All notes made during the session, pre-test, session report card, post-test, response to the two questions on energy use and comfort, and action plan need to be in the file.

If the consumer's home is scheduled for weatherization, their file should be made available to the weatherization program.

Likewise, all subsequent programs that involve the consumer and energy, should refer to this file for insight into the consumer's situation. If additional energy-efficiency education is planned, it should build on what has already been done.

IN-TAKE EDUCATION FOLLOW-UP PROCEDURE

In most intake education programs, the numbers of consumers who pass through the system will be great. Because of these high numbers, it may not be feasible to do follow-up on everyone. However, a random sampling of consumers will provide valuable information on how well the program is succeeding.

There is a cost for follow-up; therefore, it is important to budget funds for follow-up. There are several considerations when setting up a follow-up program for your intake education:

- What will you ask
- How many applicants to ask (sample size)
- How will you ask
- Who should ask
- What will you do with the information gathered

THE -FIRST CONSIDERATION: WHAT TO ASK?

The reason for doing follow-up should be addressed in the questions you ask. It is important to find out if the education was beneficial to the consumer. Did the consumer learn anything from the education? Has the consumer applied any of the information presented during the education? Does the consumer think the education helped in any way? How could the educator improve the session?

You may want to ask the consumer to suggest things that will improve the education. Additionally, it would be helpful to ask for suggestions for next year's education.

Since time and money are always tight, it may not be economical to ask more than is offered above. You should be able to gauge the effectiveness (consumer benefit) of your program using the above approach.

THE SECOND CONSIDERATION: HOW MANY APPLICANTS TO ASK? (SAMPLE SIZE)

If you are financially able, survey everyone who receives intake education. If this is economically impossible, do a random sampling. Decide first how many applicants you will sample and pull every tenth file until your target number has been reached. For example, if you provided education to 300 consumers, you want to sample 30. Pull every tenth file until you have reached 30 consumers. If you can't reach a given consumer, go to the very next file until you make contact, then count ten more and try again. Using this method you may find that you go through the entire file more than once to reach your target number.

THE THIRD CONSIDERATION: HOW TO ASK?

The quickest way to collect information is to use the telephone. Another method would be to mail a questionnaire. The drawback to the questionnaire is that the return may be less than 100 percent, and since you are only sampling a portion of those served. your results may be too small. The telephone, on the other hand, can practically guarantee a 100 percent response. To reduce the cost of long distance, it is advisable to secure the use of telephones within local service areas. Expect to-take time when conducting a survey. Some people are happy to talk to anyone about anything, others are just not interested. Don't be discouraged. It will be well worth your time.

THE FOURTH CONSIDERATION: WHO SHOULD BE DOING THE ASKING?

This data collecting activity can be done by volunteers. Volunteers need to be versed in the type of education that was offered. Having volunteers who have received the same intake education would be beneficial.

It is important to train all volunteers in proper telephone procedures. Prepare a script and data collection forms. This can be accomplished through the office phone system using role-playing exercises. If the consumer has a question that the volunteer can't answer, the volunteer should write down the question and inform the consumer that someone will get back to them. It is important to follow up on such questions as soon as possible.

THE FIFTH AND LAST CONSIDERATION: WHAT ARE YOU GOING TO DO WITH THE INFORMATION ONCE YOU HAVE COLLECTED IT?

The fifth and last consideration is "what did the program accomplish?" and was it successful?" The information you collect will answer these questions. Beyond that, there may also be a need for the state, utility, or another funding source to know. If this is the case, it is important that everyone ask the same questions. This will enable others to compile the results from all agencies that participated. From an agency perspective it would be wise to supply the funding source with the results of your survey whether they requested it or not. Use the results to improve your program or justify its existence The most important aspect of providing intake education is to benefit the consumer. Always strive to increase the benefit the consumer receives.

PROVIDING EDUCATION DURING THE WEATHERIZATION AUDIT!

Viewed from a purely objective point of view, the weatherization auditor (or estimator, depending on your title preference) is in the best position to provide consumer energy-efficiency education. Let's consider the facts:

- The weatherization auditor must visit the home to perform the audit;
- The weatherization auditor has a wealth of understanding and knowledge about home energy and specifics of heat loss related to the consumer's home.
- Most weatherization auditors are comfortable talking to consumers about their home and know the language of energy and construction, making it easier for the consumer to understand.
- The weatherization auditor commands respect and trust by virtue of technical skill and the apparatus used in performing the audit.

The down side of the weatherization auditor providing education ism that he or she may balk at additional tasks, citing time constraints. Education need not be a burden to the auditor. In fact, through some simple adjustments in the routine 'and a little more time, the weatherization auditor can provide beneficial information to the consumer. The most important factor is that the auditor has flexibility in the kinds of, information they present and that the information is meaningful to the consumer. In other words, the education is not for the sake of education alone, but to provide practical information that the consumer will be able to put to use to improve their situation.

STEPS IN A WEATHERIZATION AUDIT

The audit procedure in many weatherization agencies takes about an hour and consists of the following steps:

- Consumer's weatherization application comes up for audit. Consumer is notified and a time is scheduled for audit.
- Auditor arrives at consumer's residence, introduces him/herself, explains what will happen.
- Auditor inspects the outside of the residence; takes measurements, looks for access to basement/crawl space, and attic. Identifies existing venting, and obvious repair needs.
- Auditor discusses what was seen outside, asks questions regarding comfort, heating, and the location of heat sources and water heater. In addition, the consumer is asked what they expect from the program. Auditor may also ask about existing weatherization.

- Auditor asks consumer to show him or her around the house. Auditor looks at condition of windows, heating system, and water heater. Notes existing insulation, piping; and repair needs. May do a furnace test. At this point some auditors do a blower door test, pressure pan test, and manometer tests.
- The auditor sits down with the consumer and discusses the types of weatherization measures that are likely to be installed. Consumer signs authorization to do work (if owner).
- Auditor explains scheduling of weatherization and when, consumer can expect work to begin. Auditor thanks consumer and leaves.
- Auditor writes up job order and submits it for scheduling and material ordering.

Using the above outline incorporates consumer education into the weatherization audit

Step 1 - Consumer Applies for Weatherization, House is Scheduled for Audit

(Step 1 should take about 10 minutes of prep time.

There are two ways the consumer can apply for weatherization: one is to apply directly to the weatherization office; the other is to apply during an energy assistance appointment. In both situations, intake education may be delivered. If this is the case, the auditor needs to be aware of the nature of the intake education and check to see if the file contains information relevant to continuing education.

*** If the consumer has received a more intensive program of consumer education such as a group session or one-on-one home visits the auditor must be informed about what was covered. In addition if the consumer has developed an action plan, the auditor should be ready to reinforce the plan.**

In this example no other education has been provided to the consumer (see Coordinating Consumer Education, Section IV, for other approaches). The auditor is notified that an audit has been scheduled. A copy of the application is provided for the auditor. The consumer is notified and must understand that the auditor will need to view the whole house. In addition, the consumer should be asked to have copies of their energy bills available for report.

BUILDING A CONSUMER PROFILE

The auditor should review the application to become familiar with the information on the application, particularly the following:

- Household size and age of occupants. (This is important to understand how energy is used. Age may indicate if someone is home during the day or if teenage energy users are present.)
- Type of energy used for heat and hot water. (Some utilities offer energy saving devices such as faucet aerators, water saving shower heads, compact fluorescents, and other materials. Be ready to use these materials if available.)
- Housing type (if noted on application).
- Routinely, an energy usage printout should be requested from all utilities providing energy (where possible). This information should be plotted to gain an understanding of energy use patterns and amounts. Alternately, the consumer may be asked to produce copies of past utility bills for discussion. (Securing past usage information from the utility will require a signed release by the consumer.)
- If the consumer has been through a consumer education program, the following should be attached to the weatherization application:

1. Response to two questions.
   a) How is energy used in the home?
   b) How well does the home stay warm/cool?

   If this information is not available, the auditor should secure it at the beginning of the audit. 2. The consumer's action plan listing the action items they agreed to attempt.

* **Energy use printouts may take time to arrive from the utilities. Printouts should be ordered as a first step when the application comes up for scheduling. Actual scheduling should be delayed until all printouts are secured.**

If the Consumer Energy-Efficiency Education Guidebook is used, the auditor should customize it to fit the consumer's situation. Based on information on the application, this may include removing those pages that do not pertain and adding pictures of weatherization work to show a "before" and "after" sequence. If some information is missing in the application or consumer file, the auditor should include enough Guidebook pages to handle all situations.

Step 2 - Introduction and Explanation

(Step 2 should take about - 20 minutes.)

The auditor arrives at the residence and does the introductions. The auditor asks if it would be possible to sit at a table since there is some information that they would like to go over. Once at the table the auditor explains every thing that will happen today and approximately how long it will take.

* **If the consumer has been through a previous education program, the auditor will ask about the action plan and the two questions on home energy use and comfort. (If the consumer has not previously attended an education program, the auditor should take the time to ask the consumer to respond to the questions.)**

By looking at the consumer's responses to the questions and the action plan the auditor will have a basic understanding of what the consumer is focusing on with. regards to energy. The auditor should acknowledge all consumer activities related to the action plan.

WHAT IS WEATHERIZATION?

The auditor discusses the sorts of weatherization items they will be looking at. The Guidebook pages with cutaways of different housing types is useful in this step. The auditor should explain the consumer's role in the process-clearing attic and crawl space, moving furniture, and making lifestyle changes.

While at the table the auditor may want to discuss air infiltration so that the consumer will have a better understanding of how weatherization works and the problems caused-by air infiltration. Again, the Guidebook page entitled Air Infiltration will be useful.

Step 3 - Inspection and Measurement

(Step 3 should take about 10 minutes.)

The auditor should ask the consumer to lead them on a tour of the dwelling. During this tour the auditor will look for repair needs that may be necessary before a weatherization measure can be installed. The outside tour also provides the auditor with the opportunity to identify such things as open, broken, or missing windows, and the condition of outside doors. The auditor can also take measurements of the dwelling exterior to calculate square footage. The auditor should try to involve the consumer in this process by having them hold the end of the tape measure or asking them about pitfalls and access locations.

While outside, the auditor should look for outbuildings where energy may be used and ask the consumer if energy is being used outside the dwelling. The auditor, as always, takes notes on any observation made with regard to outside energy use and dwelling conditions such as exterior wall coverings.

If access to the crawl space is from the outside, the auditor will need to examine this area to measure joist spacing and piping. If for any reason a ladder is used, the auditor should ask the consumer to steady the ladder as the auditor climbs.

INVOLVING THE CONSUMER

By including the consumer as much as possible in the audit, the consumer will have a greater understanding of what is being done and why. The consumer may also take some ownership in the project because of this participation. Be sure to allow the consumer an opportunity to explain what they want to achieve with weatherization. Try to help the consumer understand the importance behind each measure that is being considered.

After all outside information has been collected return to the inside and begin the walk-through.

Step 4 - The Walk-Through

(Step 4 should take about 20 minutes.)

Before the auditor/educator begins the walk-through, there needs to be an explanation of what will be looked for and why. Again, if the consumer has an action plan or has addressed the two questions about energy use and comfort, watch for anything that applies. The consumer needs to be aware of the major energy uses. The Guidebook pages entitled Home Energy Use and Average Monthly Appliance Usage will be useful in this discussion. The auditor needs to explain the difference between the major energy users and minor energy users. As the auditor walks through the home ask the consumer if selected appliances are major users or minor users: Have the consumer explain how they use (how often and how long) different appliances.

It is helpful to provide the consumer with a clipboard, paper, and pencil to take notes as the walk-through is conducted. Suggest that they make notes on anything they might want to get back to later, or include in their action plan. Using a prepared form that has each room identified would be helpful. Don't forget hallways and basements. Additionally, make the consumer your partner in this endeavor, rather than the you doing everything, allow the consumer to take an active role. For example, when taking a water temperature reading, have the consumer, do it and report the finding. The more the consumer is involved, the more they will benefit.

LOOKING FOR ENERGY USERS

Approach the walk-through using a room-by-room systematic method. A checklist such as the Room-by-Room Energy Uses (Figure III-30) is handy for this. The purpose of the walk-through is to identify how the household uses energy, and, for the consumer to point out what they feel are their biggest problems and the measures they have taken to stop waste, improve comfort, and save energy. Of course the auditor will also be looking for weatherization measures that need to be installed, taking measurements where appropriate. -

Figure III-30

THINGS TO LOOK FOR

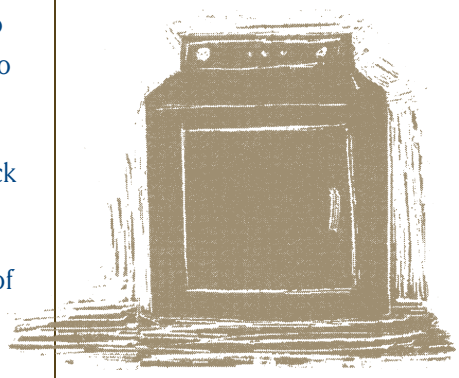
Things to look for and things to check when doing a walk-through:

- Look for electrical outlets and see what is plugged into them. Look for overloaded outlets and have consumer identify which energy use sector the appliances are in. (Refer to Guidebook illustration entitled Home Energy Use.)
- Check the wattage of light bulbs and amount of dust collected on them. Explain how dust reduces illumination or efficiency of bulb. Note location for possible compact fluorescent bulb changeouts. Refer to agency policy for compact fluorescent changeouts.
- Check for missing or broken switch plates and outlet covers. If available, provide the consumer with new covers and gaskets. Show them how to install them. Have all missing or broken covers replaced with covers that have sliding hole covers or equivalent.
- Check the thermostat to see the temperature setting. Have the consumer measure the room temperature with the auditor's thermometer and compare it to the thermometer on the thermostat. This activity is relevant during heating and cooling seasons.
- Check the relative humidity of the rooms (winter months only). If high (above 60%), look for causes and explain impact of high humidity to consumer. If below 40%, suggest ways to increase humidity.
- Look for the water heater. Check to see if it is in a heated (conditioned) space and if it is wrapped. If not wrapped have consumer feel the outer casing, is it warm? If an unwrapped water heater is warm to the touch, it is wasting energy.

- Check faucets for faucet aerators, and showers for water saving showerheads. If aerators and low -flow showerheads are not present, measure the flow rate and work with the consumer to install low-flow showerheads. Check faucet screens for particles, and clean as needed. Install aerators if needed. Remember to allow consumers to do as much of this work as possible with your guidance.
- Have the consumer measure the hot water temperature at the faucet furthest from the water heater.
- Show the consumer how to adjust the water temperature setting on the water heater. The water heater should be set no higher than 120°F or as low a the consumer allows. Every degree below 120°F saves energy and money.

* **Inform the consumer that they must never adjust electric water heaters without first turning off the power.**

- Check the gaskets on the refrigerator and freezer for wrinkles, folds, gaps, or mold. A flashlight turned on and placed inside the refrigerator with the door closed is a good way to identify leaks. If leaky, explain how to repair with foam weatherstripping. Folds can sometimes be reworked.
- Have the consumer place a thermometer in the refrigerator and leave it there for at least 1 minutes. Refrigerator temperature should be between 38°F and 40°F. Freezer temperatures should be 0°F, no higher, no lower. Don't forget to take your thermometer out of the refrigerator!
- Have the consumer check the coils on the back (or bottom) of the refrigerator for dust, depending on where the coils are located. Make sure the refrigerator coils have room to breathe and are dust free.
* If the consumer has a washer and dryer, check the wash and rinse temperature settings. Also, check to see if the dryer is vented all the way to the outside of the house. Check vent hose for clogs and outside vent door to ensure it closes.



- If a dishwasher is present have, the consumer explain how they use it. Check for energy saver setting.
- The auditor should have the consumer show them the drafty or cold spots of the house.
- Look for the attic access. If space is not too limited, allow the consumer to look in and explain how the insulation will be installed. Be sure to comment on recessed lights and venting.
- The auditor should have the consumer show all the measures already taken to improve comfort and reduce energy waste.
- Set up a blower door and check for air leakage. (Pressure pan and manometer test may also be conducted at this time.) Look for plumbing and wire penetrations under sinks, in closets, and along baseboards. (This will, or should be, blower door guided.)
- Be sure to refer back to the consumer's written comments about comfort and energy use.
- Look for ways the consumer can improve comfort and reduce energy waste. Try to expose these activities to the consumer in a way that they discover them. For example, if the waterbed is not made, point out that the waterbed will hold its temperature better if the bed were made. Ask if there is anything that could be done to keep the heat in the waterbed.
- Look for ways to excite and motivate the consumer into taking action. The message throughout needs to .be that the consumer has control over their energy usage.

Figure III-31

ACTION PLAN

In most homes, the largest energy uses outside of the heating system will be found in the kitchen and utility room. More time will need to be spent in these rooms than in other rooms. By the end of the walk-through the consumer should have a good understanding of how energy is used in their home and several ideas on how to improve their energy-efficiency and comfort. Before moving on to the next step, have the consumer commit to three action items. Use the action plan (Figure III-31) to record the consumer's action items and have the consumer sign the plan. Keep a copy of the action plan in the consumer file for follow-up. .

Step 5 - High Tech Data Collection

(Step should last about 20 - 30 minutes.)

The well-equipped and trained auditor has a wide array of sophisticated data collection devices at his or her command. The blower door, furnace tester, CO tester, and infrared camera, pressure pan, and manometer are examples of the high technical level that weatherization auditing has achieved. Depending on the local agency (and in some cases the state or utility), the auditor may be required to collect measurements using all of this equipment.

Many consumers are fascinated with technology and will show a genuine interest whenever it is used. Always allow the consumer to experience the equipment in use; there are many opportunities for the consumer to assist you. However, one should always exercise caution when letting consumers work with equipment and provide close supervision.

HIGH TECH AND THE CONSUMER

Some auditors like to start their visit by taking blower door readings. This usually draws the consumer in and gives the auditor instant credibility. This is especially true when the consumer is able to feel air rushing in through cracks and other places.

It is usually better to give the consumer some understanding about energy and how it is used in their home before the auditor brings out high-tech equipment like the blower door or infrared camera, Whenever the auditor chooses to take their readings and measurements, it is important that the consumer be as involved as possible. It may not seem like a lot to the auditor who uses this equipment every day, but to the consumer who has never seen it, it is-space age. Letting the consumer turn on the fan of the blower door and watch the dials move is something they will tell their friends about.

Every hands-on experience the consumer has during the audit will make the education more meaningful. The auditor should never underestimate their own knowledge. Take the time to explain what they are doing and why they are doing it.

Step 6 - Closure

(Step 6 should take about 5 minutes.)

Once all readings and measurements have been taken and the auditor has explained what was found, there should be a formal closure of the session. Begin by asking the consumer if they have any questions. Based on the auditors, knowledge of previous weatherization jobs, explain what is most likely to happen with weatherization. If permission to proceed with weatherization needs to be obtained in writing, now is a good time to do it if the consumer is also the owner. If the consumer has not developed an action plan, they should be encouraged to do so now. After the consumer has identified these action items, discuss them with the consumer to make sure they understand what is involved.

The auditor should report all steps that were taken and what was found during the session. Again, allow the consumer time to ask questions. The auditor and the agency will want to know how effective their education approach has been. To find out, the auditor should ask the consumer to fill out the session report card (Figure III-32). The session report card should be signed and included in the consumer file.

Figure III-32

SCHEDULING WEATHERIZATION

The schedule of weatherization needs to be explained, as well as who will be doing the actual weatherization work. Since the consumer was deeply involved in the audit, every effort needs to be made to inform the weatherization crew or contractor of the interest level of the consumer. This way, they will not be surprised if the consumer follows them around asking questions. They should also be instructed to address the questions as best and as politely as they can.

INSPECTION

The consumer needs to know that the work will be inspected. Inform the consumer that the inspection may be by more than one individual, such as where utility companies do their own inspections in addition to the weatherization agency. The consumer should be ready to ask any questions that arise during or after the weatherization has been installed. Such questions can be addressed by the inspector. The consumer should know that the weatherization work will be done to their satisfaction. Inspections area good opportunity to reinforce the education and address questions the consumer may have. Inspectors should always ask about the consumer's action plan and problem areas.

CONSISTENT MESSAGES

The auditor, crew, contractor, and the inspector should be aware of the consumer's concerns as identified in their statement of energy use and comfort. Likewise the crew, contractor, and inspector should be-aware of the consumer's action plan and refer to it when appropriate, reinforcing it whenever possible. It is very important that the consumer hear a consistent message from everyone involved in the process, from the first contact to the last. Remember, the consumer is as important to the total process as any measure the crew or contractor installs. Achieving energy-efficiency at its best is holistic. Everyone involved and everything that is done is equally important.

FOLLOW-UP

The auditor should explain any follow-up program that will be used. In most cases, follow-up will not begin until after the weatherization work has been inspected, but, the consumer should be aware of it. If the auditor noticed anything during the audit that could be reinforced by using any of the handouts contained in the Guidebook, the auditor should give copies of those pages to the consumer or inform the consumer that they will be mailed at a later date.

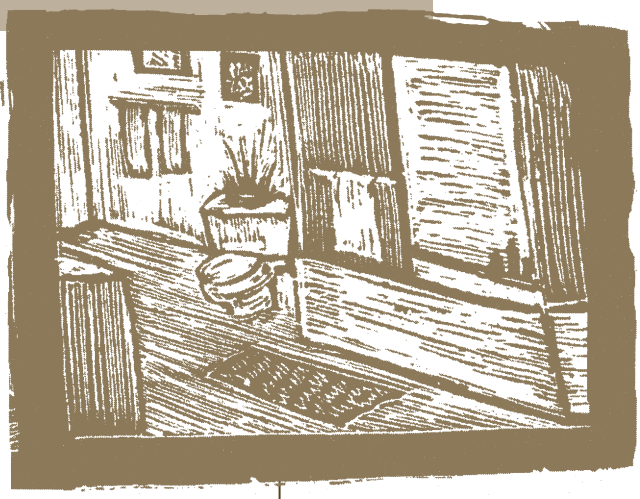
The auditor needs to make sure that they have all their tools, including the thermometer in the refrigerator. Encourage the consumer to follow through with their action plan. Thank the consumer for their assistance and their time.

FOLLOW-UP FOR WEATHERIZATION AUDIT

The follow-up for education delivered in conjunction with the weatherization audit should be conducted after the weatherization work has passed inspection and the consumer has received a utility bill. This will give the consumer time to get acquainted with how their home is reacting to the improvements that were made. Waiting will also give the consumer an opportunity to try their action items.

Follow-up for consumers whose home has been weatherized should be conducted in the same way as the follow-up for other delivery methods. Since these consumers have had their homes weatherized, the follow-up contact could include questions about the measures that were installed. As always, the follow-up should be conducted in a friendly, congenial manner. Contact should be concise and of short duration however, it should be repeated 'monthly for a period no shorter than six months.

Section IV



Additional Factors in an Effective Energy-efficiency Education Program

REMEDIAL EDUCATION

Remedial education should be offered to any consumer who fails to meet the goals of the program or their personal goals (action plan). The decision to offer remedial education, however, should be made by using criteria set by the advisory board that oversees the program or the agency delivering the education, whichever has authority for planning and policy development.

FACTORS TO CONSIDER

Who receives remedial education should be based on the consumer's willingness to participate, and the benefits that might be achieved through remedial education. The degree to which program goals were achieved is also a consideration. Remember, energy savings alone may not be the only factor to consider in determining progress towards goals.

PROGRAM ELEMENTS

A remedial education program would consist of a review of household demographics noting any changes; a survey of household appliances to determine if any new appliances were added; and the condition of both the heating system and the water heating system to determine if a system failure has occurred.

The consumer's action plan should be discussed to determine if the consumer followed through and what problems they encountered. The educator should discuss all possible scenarios with the consumer in an effort to identify the reason for noncompliance..

If the educator discovers the reason for noncompliance appropriate steps should be discussed with the consumer so that corrective action can be taken. All corrective actions should be items suggested by the consumer and recorded as action items and additions to the original action plan. Follow-up should continue for a period of six months after remedial education has been delivered.

The likelihood or need for remedial education is reduced if monthly follow-up is conducted on a regular basis.

COORDINATING CONSUMER ENERGY-EFFICIENCY EDUCATION

Consumer energy-efficiency education lends itself to a wide range of variations. It can be offered as part of a holistic weatherization program, an enhancement to an energy assistance program, or a community energy workshop, or incorporated into a head Start education curriculum. However you decide to

offer it, always remember that the information you provide may not be the only energy-related information the consumer is hearing. Others within your agency or community may also be involved in providing energy focused education to the same population you are serving. It is important there fore, to coordinate all efforts so that the consumer will reap the largest benefit possible.

SHARING THE NEED

Earlier, when we discussed identifying a need, it was suggested that-you have stakeholders on board from the beginning. With all the different players and programs aimed at providing assistance to the economically disadvantaged, it would be easy for more than one program to offer consumer education. While designated funding may be the reason for more than one program, it is not impossible to coordinate all efforts where the same consumers are involved.

CONSISTENT MESSAGE

The overriding reason for coordination is to provide a consistent message to the consumer. Consumer trust is the one aspect that will make or break a program such as consumer energy-efficiency education. If conflicting information is being given to the consumer, he or she may not follow through with the action plan.

BEING ADMINISTRATIVELY POLITE

There is nothing wrong with more than one consumer energy-efficiency education program being offered in the same area to the same people. If you find yourself in a situation where multiple programs are offered, consider the following approaches:

1. Identify all consumer energy-efficiency education programs in your service area and who is offering them By all, that means public and private, and don't overlook other programs within your own agency or company.
2. Contact the other programs and arrange a meeting. It is a great opportunity to share information about what is being offered and to whom.
3. At the meeting look for common ground and ways to coordinate the programs. Try to envision a pyramid with a broad base for information to be built upon, where each program builds upon what another established. Information that might be discovered is that a program may be overextended to the point of not doing justice to the material it is presenting. This could be an opportunity to coordinate efforts to benefit the consumer. In any case, every effort should be made to approach the subject in a harmonious fashion.

4. Try to agree on a division of labor where the education is evenly shared in a logical arrangement. For example, if another program is offering energy education as part of a package, it may be possible to have your educators help with presentations. Having different presenters may make it more interesting. If helping with presentations is not possible, you might offer to share your material as an alternative.

THE TIME IS RIGHT FOR ENERGY-EFFICIENCY

There is a renewed interest in energy-efficiency which you may find timely for your program. There is also a lot of information on how to be energy efficient, from "101 Ways to Save Energy," to "How to Save the Planet in Ten Weeks or Your Money Back."

It is important that people learn how to use energy. To many, energy is a mystery. People expect the light to, come on when they flip the switch, but very few know where the energy comes from that makes the light or the toaster work. Or better yet, how did the utility bill got to be so high. As an educator, try to take the mystery out of energy. Coordination of energy programs will help, as it will reduce the confusion.

A clear, consistent, and simple message is the best defense in a world of half-truths, assumptions, and misleading information. Work to keep energy education understandable and meaningful for all.

MEDIA AND THE MESSAGE

The media (both print and electronic) is interested in energy. Energy makes great human interest stories and can be used to show the public they (the media) care and are in-the-know. There are opportunities to have your program and its sponsors showcased to increase awareness in the community about what you are doing. There is also great potential through the media to do "mass education."

Mass education can inform the public about how to make their homes more energy-efficient. It can also be used to help the community focus on a target or goal, as was the case in 1992 when Seattle and Portland initiated successful water conservation programs. When the message comes over the media, it gives the consumer a sense of community, a feeling that they are not alone in their efforts.

Mass education also provides a powerful reinforcement for those who have participated in a consumer energy-efficiency program. If, after receiving education, the consumer is exposed to a similar message in the media, it will act as a reminder of the actions they should take to improve energy-efficiency.

VARIATIONS ON A THEME

The consumer energy-efficiency education models featured in this curriculum all follow, a common theme. It was intentional that the theme was kept simple so that it could be easily copied. The principal elements that each model has in common are:

1. Know as much about home energy use as you can, using your home as a laboratory to conduct experiments to find out what works.
2. Know as much as you can about the consumer whom you are educating before you begin the education.
3. Focus on the major energy uses in the consumer's home.
4. Take the mystery out of home energy and give the consumer an understanding of how they use energy.
5. Get the consumer to commit in writing to actions that will change their behaviors and/or energy use.
6. To support the actions the consumer has committed to and follow-up over time to reinforce the education presented.

DARE TO BE DIFFERENT

Just as every household is unique, everyone who delivers consumer energy-efficiency education will have their own style. Because the need to educate consumers on energy-efficiency is so great, no time should be spent wrestling with the concept of which way is best. A lot of factors will influence the model that best meets the needs of your area and the consumers you serve. So dare to be different, mix it up, create a program that works for you.

Of all the energy-efficiency education programs that are currently operating, none are the same. Each, like a fingerprint, is different, yet each is successful in its own way.

Of all the energy-efficiency education programs that are currently operating, none are the same. Each, like a fingerprint, is different yet each is successful in its own way.

DIFFERENT APPROACHES

To illustrate how success in consumer energy-efficiency education can take on a different look, a few examples are featured. Each of the following examples was pioneered out of necessity. These approaches should help you get a feel for how creativity can play an important part in educating consumers on energy-efficiency.

THE WALLA WALLA APPROACH

The Blue Mountain Action Council in Walla Walla, Washington, has been involved in consumer education since 1989. Their program, known as the Energy Savings Partnership, uses volunteer educators who themselves have

been through the education program. The Energy Savings Partnership)combines one-on-one home visits with support group meetings.

Volunteers are picked from those participants who achieved the most success in previous year's program. During the support group meetings, the volunteers tell their story of how the program worked for them. Additionally, the volunteers are viewed as a trusted source by those currently in the program. The combination of home visits, small group sessions, and shared experiences help to make the Energy Savings Partnership successful.

ENERGYWARE PARTIES

An education program developed by a VISTA Volunteer for Northeast Rural Resources in Colville, Washington, uses a home party approach. The program, titled Your Energy Saving Solutions (YES), works with small groups in the home of a host. Participants can be assigned to a party, be invited by a host, or be a host him/herself. -

The host provides their home for the party, allows the educator to lead party participants on a energy use tour through their home, and receives a $10 credit on their electric bill.

Participants and the host receive information on energy-efficient options, refreshments, and $20 worth of self-help materials. Materials include window plastic, water heater wraps, weatherstripping, caulking, and related items. The educator provides hands-on demonstrations for all materials, using the host's home as a classroom. -

THE MOST PROGRAM

Managing On a Shoestring (MOST) is an energy-education program developed by The Energy Collaborative of Minneapolis, Minnesota, for Northeast Utilities in Hartford, Connecticut. MOST employs a group workshop approach.

The unique aspect of the MOST program is the "price tags on energy" exercise. Participants are reminded that energy use can be like shopping for groceries, without knowing the cost of anything you buy until you check out.

The educator and participants discuss the control that they have over energy use. Knowing the cost of the various energy consuming actions, helps consumers control their energy usage. For example, if one takes a 15-minute shower every day; the cost could be over $120 per year. However, if the shower time were cut in half, the cost would drop also by one half to $60 per year.

The MOST program also focuses on the "USE/LOSE" concept. Participants are instructed in how people USE energy and the house LOSES energy. This helps consumers understand how their actions will effect energy use.

YAKIMA VALLEY ORGANIZED INDUSTRIALIZATION CENTER APPROACH

In northern Yakima County, Washington, the local weatherization agency has been delivering consumer energy-efficiency education since 1989. Over the years, they have refined their delivery approach to a science.

The weatherization auditor is accompanied to the consumer's home by an educator. The educator works with the family members while the auditor takes measurements for weatherization. A blower door test is used to measure air movement through the home and to involve the consumer in identifying air leaks. Educators from Yakima Valley OIC report that consumers really get motivated after experiencing the blower door test and are more receptive to other educational information as a result.

In a partnership with Pacific Power, educators are able to install compact fluorescent lights as part of the education package. Discussions, of home energy uses are also an integral element of the program. Educators have found that through education, they are not only able to help the consumer save energy, but can solve indoor moisture problems as well. -

SMART COMFORT IN PITTSBURGH

Smart Comfort is a program administered by Conservation Consultants, Incorporated, of Pittsburgh, Pennsylvania, for Duquesne Light Company. The education program consists of a home visit where the educator (energy manager) uses a watt meter to measure the amount of energy major appliances are using; a walk-through electric base load audit; and provides information on energy use.

Consumers are encouraged to become partners with the education delivery agency- and the utility in an effort to save energy. To this end the consumer pledges-to commit to three "action items" that will change how they use electricity. The energy manager installs compact fluorescent light bulbs anywhere that a light is on for four hours or more a day.

A unique feature of this program is that the utility will replace the refrigerator and/or freezer, if it uses kwh or more a day, with a new, energy-efficient model. Households where waterbeds are in use must agree to also have them replaced before they can receive a new refrigerator.

The agency provides follow-up after two or three months to find out how the consumer is doing with their action plan. The agency also monitors the consumer's energy use through a computer link with the utility. This program only looks at electric baseload, while another program with Columbia Gas looks at space heating.

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2124 Kittredge Street, #95
Berkeley, CA 94704

Energy Exchange (newsletter)
Post Office Box 1472
Syracuse, New York 13202

NCLC Energy and Utility Update (newsletter)
Volume IX, Number 4, August 1992
National Consumer Law Center, Inc.
11 Beacon Street
Boston, MA 02108

Alliance Update (newsletter)
Alliance to Save Energy
1725 "K" Street Northwest
Suite 914
Washington, D.C. 20006-1401

Conservation Monitor (magazine)
NewsData Corporation
Po Box 900928
Seattle, WA 98109

Northwest Consumer Energy Education (newsletter)
Oregon State University Extension Services Energy Programs
800 NE Oregon Street, #10
Portland, Oregon 97232

Professional Association for Consumer Energy Education (PACE2)
Po Box 151147
Columbus, Ohio 43215-8147

Ontario Ministry of Energy
6 Wellesley Street West
Toronto, Ontario
Canada M7A 2B7

American Council for an Energy-Efficient Economy (ACEEE)
1001 Connecticut Avenue Northwest,
Suite 801
Washington, D.C. 20036

Action Plan

ENERGY NORTHWEST
A HOLISTIC APPROACH

Consumer's Name Date

Address City

Telephone

Things I (we) can do to make my (our) home energy efficient:

1.

2.

3.

Things I (we) can change in the way I (we) use energy:

1.

2.

3.

I (we) understand the above Action Items, if completed, will help make my (our) home comfortable and energy efficient.
The energy educator has explained what I (we) need to do to make these things work, and I (we) agree to try.

Consumer's Signature Date

Educator's Signature Date

Utility Information Release Form

Customer Name Date

Service Address City

Phone Number Account Number

I authorize _____ to contact _____
Agency Name Utility Name

in order to obtain my energy usage history, beginning from _____ to present
(Date)

Further, to monitor my energy usage until _____ or until I withdraw permission.
(Date)

It is my understanding that this information will be used to help me and my household and will remain confidential, that my name and/or address will not be used publicly.

_____
Customer's Signature

Strctural Profile

ENERGY NORTHWEST
A HOLISTIC APPROACH

Consumer's Name Date

Consumer's Phone Number

Address City Zip

Owner's Name

Owner's Phone Number

Address City Zip

Type of Dwelling

◯ Single-family ◯ Duplex ◯ 3-4-Plex ◯ Multi-Family

◯ Mobile Home ◯ Pre-HUD Code ◯ HUD-Approved

Number of Bedrooms: Age of Structure:

Number of Floors: Number of Heated Rooms:

Sq. Footage of Living Area: Sq. Footage of Heated Area:

Heating System

Electric ◯ Baseboard ◯ In-Wall Space Heater ◯ Other (Specify):

◯ Forced Air Furnace ◯ Ceiling/Wall Radiant

Natural Gas ◯ Space Heater ◯ Wall Heater ◯ Forced Air Furnace

Gravity Furnace ◯ Radiator/Baseboard ◯ Other (Specify):

Oil ◯ Stove ◯ Forced Air Furnace ◯ Boiler

◯ Gravity Furnace ◯ Other (Specify):

Wood ◯ Stove ◯ Forced Air-Furnace ◯ Gravity Furnace

◯ Fireplace ◯ Fireplace Insert ◯ Combo

◯ Other Wood (Specify):

Other ◯ Coal ◯ Propane ◯ Kerosene

◯ Active Solar ◯ Pellet ◯ Other (Specify)

Home Heating/Cooling: ◯ Zone ◯ Whole House

Day-Time Temperature Setting: Night-lime Temperature:

Is an air conditioner used? ◯ Yes ◯ No

Strctural Profile, Page 2

Water Heating:

Location ◯ Heated Space ◯ Unheated Space

Type ◯ Electric ◯ Natural Gas ◯ Propane ◯ Other

Tank Size in Gallons:

Temperature Setting at Tank: Adjusted Setting:

Temperature at Faucet Temperature After Adjustment

Is water heater insulated? ◯ Yes ◯ No

Is more than one water heater in use? ◯ Yes ◯ No

If yes, use t record all information:

Lighting:

Total wattage per room = number of lights + wattage of each light

Record "Total Wattage" for each room and an estimate of how long the lights are on during an average day.

Example: watts/time

Kitchen	Dining Room	Living Room	Den
Family Room	Basement	Hallway #1	Hallway #2
Bathroom #1	Bathroom #2	Bedroom #1	Bedroom #2
Bedroom #3	Bedroom #4	Bedroom #5	Utility Room
Other Room(s)			

Weatherization:

Has the house ever been weatherized? ◯ Yes ◯ No

If "No," or if more needs to be done, has owner's written approval been obtained?

◯ Yes ◯ No Date Requested:

◯ Blower door pre-test cfm@50 ◯ Post-test _____ cfm@50

◯ Attic R-_____ ◯ Kneewalls R-_____ ◯ Slops R-_____

◯ Walls R-_____ ◯ Floors R-_____ ◯ Perimeter R-_____ ◯ Ducts R-_____

◯ Ducts Sealed ◯ Wall or Floor Cavities Used as Ducts

◯ Water Pipe Wrap Doors weather-stripped

◯ Windows weather stripped ◯ Storms ◯ Thermal Replacements

◯ Furnace tuned ◯ Furnace replaced ◯ Heating System added

Comments Related-to Weatherization:

Strctural Profile, Page 3

Condition of Structure:

Only check if in need or repair.

- ⬭ Roof
- ⬭ walls
- ⬭ Floors
- ⬭ Foundation Skirting
- ⬭ Porch
- ⬭ Wiring
- ⬭ Plumbing
- ⬭ Sewer
- ⬭ Heating System
- ⬭ Air Conditioning
- ⬭ Hand Railings
- ⬭ Wheelchair Ramp
- ⬭ Doors
- ⬭ Windows
- ⬭ Stairs
- ⬭ Other:

Evidence of Moisture Problems:

- ⬭ Mold
- ⬭ Fungus
- ⬭ Mildew
- ⬭ Dry Rot
- ⬭ Rotten Wood
- ⬭ Moisture on Windows
- ⬭ Damp Odors
- ⬭ Standing Water in Basement or Crawl Space
- ⬭ Stains on Walls, Ceilings, or Floors
- ⬭ High Humidity in Rooms

General Comments Related to the Structure:

Structure Drawing:

Appliance Checklist

ENERGY NORTHWEST
A HOLISTIC APPROACH

Kitchen

____ Refrigerator/Freezer
____ Electric Oven/Range
____ Gas Oven/Range
____ Dishwasher
____ Toaster Oven
____ Food Processor
____ Microwave Oven
____ Food Dehydrator
____ Coffee Maker
____ Waffle Iron
____ Toaster
____ Garbage Disposal
____ Blender
____ Mixer
____ Electric Frying Pan
____ Electric Knife
____ Electric Can Opener
____ Electric Clock
____ Juicer
____ Fan
____ Exhaust Fan
____ Range Hood
____ Water Heater (Electric)
____ Water Heater (Gas)
____ Crock Pot
____ Radio Television
____ Space Heater
____ Hot Plate
____ Vacuum Cleaner
____ Electric Broom
____ Trash Compactor
Other_____

Dining Room

____ Electric Clock
____ Chafing Dish
____ Radio Stereo
____ Space Heater
____ Ceiling Fan
____ Other

Bathroom

____ Hair Dryer
____ Hot Roller
____ Curling Iron
____ Electric Toothbrush
____ Electric Shaver
____ Radio
____ Contact Lens Cleaner
____ Exhaust Fan
Other_____

Living Room

____ Television
____ Radio Stereo
____ Electric Clock
____ Organ
____ Answering Machine
____ VCR/Beta Recorder
____ Vacuum Cleaner
____ Space Heater
____ Fish Tank
____ Ceiling Fan
____ Video Games
____ Other

Bedroom

____ Radio Electric
____ Clock
____ Waterbed heater
____ Television
____ Electric Blanket
____ Heating Pad
____ Air Conditioner
____ Space Heater
____ Fan
____ Answering Machine
____ VCR/Beta Recorder
____ Computer Printer
____ Video Games
____ Vaporizer
Other_____

Den/Office

____ Electric Typewriter
____ Computer
____ Printer
____ Electric Clock
____ Stereo
____ Radio
____ Television
____ VCR/Beta Recorder
____ Answering Machine
____ Air Conditioner
____ Fish Tank
____ Alarm System
____ Space Heater
Other_____

Hallways

Other_____

Utility Room/Basement

____ Washing Machine
____ Electric Dryer
____ Gas Dryer
____ Water Heater (Electric)
____ Water Heater (Gas)
____ Iron
____ Dehumidifier
____ Space Heater
____ Fan
____ Radio
____ Battery Recharger
____ Forced Air Furnace
____ Gas
____ Electric
Other_____

Garage/Outbuilding

____ Garage Door Opener
____ Air Compressor
____ Refrigerator/Freezer
____ Freezer
____ Fan
____ Water Heater (Electric)
____ Water Heater (Gas)
____ Shop Vacuum
____ Electric Clock
____ Water Pump
____ Power Tools
____ Lawn Mower (Electric)
____ Beer Signs
____ Kiln
Other_____

Outside Uses

Other_____

F

Session Report Card

Name Date

Address City

Time Educator Arrived Time Educator Departed

	Yes	No
1. Did you understand the information covered?		
2. Did the educator answer all questions?		
3 Did the educator adequately cover the topics?		
4. Were you shown the Energy Guidebook?		
Were you given any pamphlets or brochures?		
6. Did you identify ACTIONS you can take to use energy more efficiently and increase comfort?		
7. Were you shown how to read your utility meter and graph your usage?		
8. Did the educator explain your energy bill?		
9. Do you feel this session will help your household save energy and increase comfort?		
10. Did you show your home to the educator, pointing out the heating system, water heater, and major appliances, and identifying cold or drafty spots?		

Additional Comments:

Consumer's Signature Date

Educator's Signature Date

Follow-up Contact Card

File Number

Educator's Name Date of Session

Type of Session: ⬭ In-Office ⬭ Workshop ⬭ Home Visit

Consumer Data

Name

Address City

State Zip Phone

Number in Household: _____ Change Since Education _____ +/-

Comment:

Action Plan:

1.

2.

3.

4.

5.

Comments:

Energy Use:

Heating Fuel: Provider:

Electric Company: Account#:

Convert to Btu and show usage from previous year and current usage below for each month.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Follow-up Contact Card, page 2

Square footage of heated space at time of education session: _____

Current square feet of heated space: _____

Comments:

Has the heating system been:

◯ Fixed _____ Yes _____ No

◯ Replaced _____ Yes _____ No

Co**comments:**

Have any major appliances been added, replaced, or removed?

◯ Yes ◯ No

Co**ments:**

Follow-Up Contact Dates:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Comments:

WHATCOM CONSERVATION PARTNERSHIP AGREEMENT

Whatcom
Conservation Partnership

Consumer Name

Address

Phone

Account Number

Agency - The Opportunity Council
314 E. Holly St.
Bellingham, WA 98227
734-5121, 384-1470

Puget Sound Power & Light Company
Customer Programs Department
1329 State St.
Bellingham, WA 98227
734-5000

The Opportunity Council, in partnership with Puget Sound Power & Light Company and the Washington State Department of Community Development, is conducting a weatherization and Consumer Education pilot project. Through this pilot project, 200 homes in Whatcom County will be weatherized. In addition to the weatherization, 100 of the homes will receive Consumer Education.

WEATHERIZATION AND CONSUMER EDUCATION PARTNER:

1. The Opportunity Council will conduct an assessment or audit of my home, install energy-efficient weatherizations measures and will inspect the measures after installation.

2. The Opportunity Council will provide two or three Consumer Education sessions with the consumer partner to identify opportunities for them to increase home comfort and lower energy costs.

Agency Partner/The Opportunity Council

DEPARTMENT OF COMMUNITY DEVELOPMENT (DCD) PARTNER:

1. Provide a grant to support the Energy Education Component.

PUGET SOUND POWER & LIGHT COMPANY PARTNER;

1. Puget Power will pay for the weatherization measures at no cost to the Consumer partner, and will inspect the measures after installation.

2. Puget Power will provide information and additional energy saving items, at no cost to the Consumer partner in the Consumer Education sessions.

3. A Puget Power Consultant will conduct an evaluation which will include an analysis of data gathered throughout the pilot project.

_____

Puget Sound Power & Light Company
Representative

CONSUMER PARTNER:

1. I/We agree to install and maintain the items provided by The Opportunity Council, or their representatives in an effort to stop energy losses of this house.

2. We want to participate in this program and two or three Consumer Education sessions.

3. I/We agree to complete a lifestyle survey in the beginning, at the end of the Consumer Education sessions and one year after the installation of the weatherization measures.

4. We understand that our family participation and cooperation can help make this a successful partnership.

5. We agree to implement at least three energy conservation techniques.

6. We give our permission for Puget Sound Power & Light Company, and the Opportunity Council to request and release necessary and relevant information that will result in data needed to evaluate this pilot project. All personal information will be kept confidential.

_____

_____

Consumer Partner(s)

ENERGY IN YOUR HOME

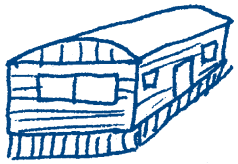
Your name _____ Date_____

Please circle the answer or answers which apply to your household.

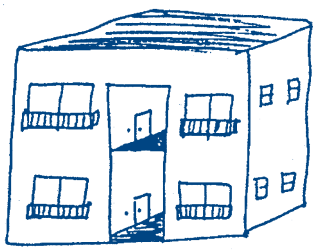
1. What kind of house do you live in?

One story

Two story



Mobile home



Townhouse, multiplex or apartment

2. How comfortable is your house in the winter?

"Some rooms are drafty and cold." Which rooms?

"The entire house is drafty and cold."

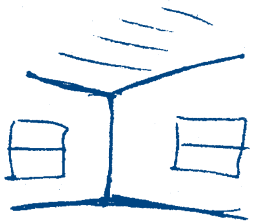
"All rooms are comfortable."

3. How do you heat your house In the winter?

Gas, oil or electric furnace

Electric baseboard or wall heaters

Hot water radiators



Ceiling radiant heat

woodstove

Kerosene heater

Portable electric heater

Kitchen range

4. How do you set the temperature In your house during the winter?

"I constantly have to adjust the thermostat to be comfortable."

"I leave the heat at the same setting day and night"

"I turn the heat down at bedtime."

"I turn the heat down whenever, I leave the house and at bedtime."

"I heat only a few rooms and turn the heat down in other rooms."

Please answer questions on the other side.

5. What are the 3 biggest energy uses In your home


Refrigerator and freezer


Lights


Winter heating


TV, radio stereo


Kitchen oven/range

Hot water


Waterbed

6. About how much did you pay for energy last month?

Electricity $ _____ Natural gas _____$ Oil _____$

My energy costs are included in my rent	Yes	No
Are you on an equal payment plan with your utility?	Yes	No
Have any of your utilities been shut-off during the past year?	Yes	No

7. How would you describe your energy costs?

"I am careful about my usage and can pay my energy bills."

"I can pay my energy bills until winter comes around."

"My energy costs are too high every month."

"No matter how hard I try, I am behind paying my energy bills."

8. The main reason my energy costs are the size they are:

Large family Meter error People in household are wasteful

Older house Other (give reason):

9. How would you describe your energy conservation efforts?

"There's nothing I can do to save energy in my home."

"I have tried to save energy but they didn't seem to work."

"I would like learn more ways to save energy in my home."

10. What steps are you now taking to control your energy costs?

NOTES

NOTES

NOTES

NOTES

CONSUMER ENERGY-EFFICIENCY EDUCATION

BOOK ORDER FORM

ITEM	SPANISH	ENGLISH	TOTAL QUANTITY	TOTAL PRICE
Consumer Conservation Education Guidebook ($20.72 per copy)				
Tomorrow's Energy Begins At Home ($11.00 per copy)				
		Sales Tax (see note*)		
		Sub Total		
		Handling Cost -$1.00 per copy		
		Shipping (see note**)		
		TOTAL COST		
		For Office Use		

Guidebooks are available in English and Spanish. Please indicate your preference when ordering. Tomorrow's Energy is available in English only.

*Sales tax of 7.9% will be applied to purchases by Washington state residents only.

** Shipping costs are additional and vary depending on number of books requested. Books are sent U.S. Mail book rate.

Shipping charges:
Guidebooks
1 copy $2.34
2 copies $3.88
3 copies $4.88
4 copies $5.88
5 copies $6.88

Tomorrow's Energy
I COPY $1.05
2 copies $1.48
3 copies $1.91
4 copies $2.34
5 copies $2.77

PLEASE SHIP TO:

Name

Company

Address

City State Zip

Send all requests to:

Washington State Community, Trade and Economic Development
Housing Services
Po Box 48300
Olympia, Washington 98504-8300

Please return this form (make a copy for your records) with a check or money order payable to: CTED Housing Services Books. We cannot accept purchase orders or C.O.D. Allow two weeks for delivery. For additional information, please call (206) 753-4184.

THANK YOU FOR YOUR INTEREST!